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TRANSPORTATION STUDY

Road System Evaluation

GETTYSBURG NATIONAL MILITARY PARK

Pennsylvania

U.S. Department of the Interior / National Park Service

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INTRODUCTION

This Road Classification Plan for Gettysburg National Military Park is being prepared in response to the Surface Transportation Assistance Act of 1982 (PL 97-424), which addresses the need to rehabilitate and where appropriate reconstruct deteriorating roads throughout the national park system. The funding authorized by this act has enabled the National Park Service to implement a multiyear program--the federal lands highway program--for the phased improvement of individual park road systems.

To fulfill the purposes of the act, the National Park Service is evaluating park road systems and classifying specific roads according to use and requisite design standards. The Federal Highway Administration (FHWA), which is extensively involved in the execution of the program, will use this information to prepare comprehensive engineering studies of park road systems. For Gettysburg National Military Park, the FHWA study will identify and evaluate road deficiencies within the park, will recommend improvements, and will propose a priority schedule for implementing these projects over the next five to 10 years. The FHWA study will also specify proper highway signing and traffic markers to help visitors tour the battlefield sites.

To provide information to guide the design and construction of park roads, each road has been classified and assigned its appropriate standard of design. This was accomplished by analyzing the following factors:

the existing and proposed access and circulation system

the purpose and function of each road

the desired visitor experience by road segment

visitor use areas served by each road

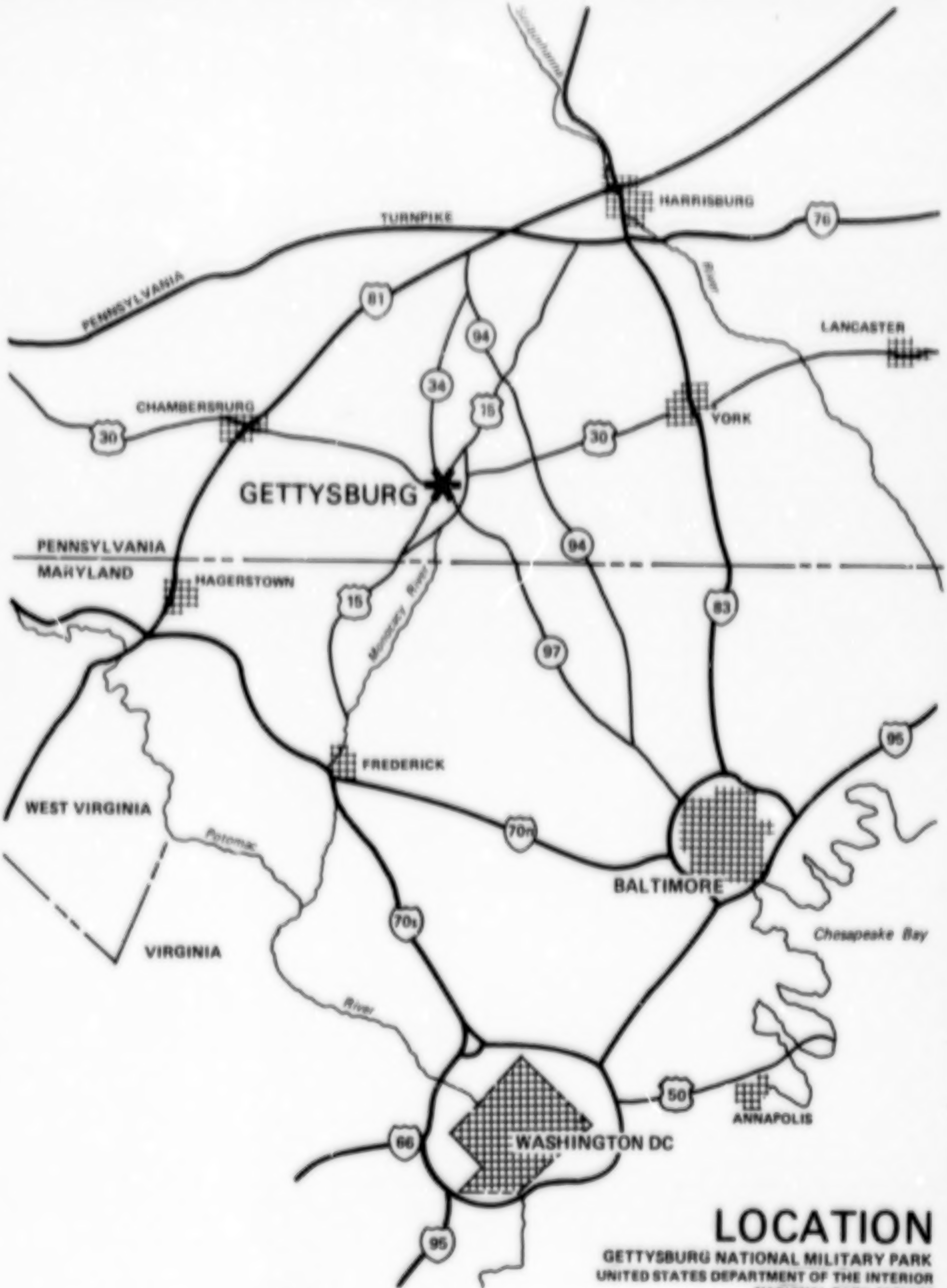
amount of use as measured by average daily traffic (ADT) volumes

vehicle restrictions, if any

resource considerations, including significant natural, cultural, scenic, and recreational resources, as well as terrain characteristics

existing road components, including road surface width, shoulder width, road surface type, maximum grade, road surface roughness, safety hazards, and signed speed limits

The majority of roads throughout Gettysburg National Military Park are in good condition except for deteriorating or nonexistent shoulders. In many locations the lack of shoulders has resulted in drop-offs and excessive erosion. The absence of formal pulloffs for visitors to view the park's monuments, coupled with increasing traffic volumes, contributes to shoulder deterioration and edge raveling. Stabilized turf shoulders have been constructed by park maintenance crews, but these shoulders have



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not been successful in keeping vehicles on the roadways or in controlling deterioration.

Most of the two-way park roads do not meet NPS road standards for width, based on ADT volumes and the high number of buses and recreation vehicles traveling them. Although many of the two-way roads are not to standard, there are several mitigating factors: (1) The present park roads generally fit in with the local road system, (2) many of the park roads and lanes are considered historic, and (3) they are generally in good condition. In most cases one-way park roads meet or exceed NPS road standards.

The greatest problem relating to visitor use and the road system at Gettysburg is the auto tour route, which currently interprets the battle sequence from the last encounter to the first. The 1982 General Management Plan proposes that in 1985 or 1986 the self-guiding auto tour route be reversed so that the battle will be depicted in chronological order. Changing the sequence will enhance the visitor experience, but several problems are evident. Visitors will have to be directed from the visitor center to the start of the tour at the Eternal Light Peace Memorial (the park brochure, along with highway signs and traffic markers, will be used for this purpose). Visitors will have to drive through the borough of Gettysburg. Some pullouts, interpretive markers, and parking areas will have to be relocated or redesigned. Finally, because traffic circulation on the new auto tour route will be reversed, traffic on several segments of one-way road will have to be reversed, which will require new signing.

Besides proposing to reverse and change the auto tour route, the General Management Plan also recommends the preparation of a development concept plan for the Little Round Top area in the southern end of the park. The purpose of this development concept plan, which is currently being prepared, is to improve visitor access and to remove the modern roads from part of the second-day battlefield area. The draft proposed action, as it affects the road system, is highlighted in the "Recommendations" section. (The final plan for Little Round Top has not yet been approved, so the actions in the "Recommendations" section are subject to change.) Other major paved roads in the park will continue to function as described in the General Management Plan. Roads within the Eisenhower National Historic Site are not addressed in this document.

The park vehicle accident reports for the last five years indicate 182 accidents and five fatalities. Deficiencies such as limited sight distances and narrow roadways may be contributing factors in some of the accidents.

EXISTING CONDITIONS AND ROAD SYSTEM EVALUATION

ACCESS AND CIRCULATION

Gettysburg National Military Park and National Cemetery are located in Adams County, Pennsylvania. The park nearly surrounds the borough of Gettysburg. Access is provided by several highways that lead to the Pennsylvania Turnpike or Interstates 81, 83, and 70. US Highway 30 and US Business Route (BR) 15 traverse the park and are major roads serving Gettysburg. Neither of these is a four-lane highway near the town, although the nearby US 15 bypass is a limited access, high-speed road. Access to the park from either the interstate or US highways is indirect, and sometimes visitors must drive through congested areas. Other major highways in the immediate area are US 140 and Pennsylvania 97, 134, and 116. The proximity of the park to the borough of Gettysburg has resulted in many park roads being used on a daily basis by local traffic. In addition the six highways that converge on the borough either traverse the park or are adjacent to the park boundary.

The park's road system has evolved from those roads that existed at the time of the battle and from wagon traces made by early visitors who came to view the battlefield. The roads that were worn along the lines of battle were eventually improved by the Battlefield Memorial Association and hard-surfaced by the War Department in the 1900s. The road system now consists of avenues, historic roads and lanes, administrative roads, and other roads. Today 31 miles of roads in the park are paved. There are also portions of nine historic unpaved lanes that have not changed significantly over the years.

Visitors are provided with a variety of means for touring the park. The most popular method continues to be the self-guiding auto tour route; this route is also heavily used by commercial tour buses. In addition the park has a bicycle tour route that uses park roads for circulation. Two supplementary auto tour routes, in addition to the main route, are recommended by the 1982 General Management Plan. These supplementary routes may be used by visitors who want more information and detail about the battle sites.

VISITOR EXPERIENCE AND USE

The primary responsibility of the National Park Service is to provide for the preservation, interpretation, and visitor use of the battlefield. The Park Service facilitates visitor understanding and appreciation for one of the most significant and symbolic events in the Civil War by interpreting the events leading up to the battle, and the effects on the course of the war. Historic events are explained, and student education programs are provided. Compatible recreational uses are also allowed.

The road network is vital to the visitor experience because the park is spread out over 3,000 acres. Tourists arriving in the borough of Gettysburg must figure out where to go. Most visitors have come to see the park, and they want to do that first.

VISITOR USE PATTERNS

Park visitation over the years has been relatively constant, although during the Bicentennial (1976 and 1977), visitation went up in nearly all units of the national park system, including Gettysburg. Average annual visitor use for 10 years (1974-1983) was 1,378,127 visits and 459,376 vehicles (see table 1); however, this average is somewhat misleading because 1976, 1977, and 1978 were unusually high use years. (The park does not have any overnight facilities, but visitors can usually find overnight accommodations in the immediate Gettysburg area.)

The number of vehicles that use park roads was determined by measuring the ADT volume for each road, based on 1982 and 1983 visitor use figures. For example, to determine the ADT volume at the park visitor center, it was assumed that 98 percent of the visitors during the peak months (April through October) arrived by motor vehicle and that the other 2 percent bicycled or walked. It was further assumed that each vehicle typically had three passengers (this factor also takes into account bus passengers). Therefore:

peak season visitation (average of 1982 and 1983)	1,076,356
percentage of visitors arriving by motor vehicle	x .98
number of persons arriving by motor vehicle	1,054,829
number of days (April-October)	÷ 214
number of daily visitors arriving by motor vehicle	4,929
number of passengers per car	÷ 3
ADT	1,643

To accurately depict the distribution of traffic within the park, the following breakdowns were used, based on visitor use data obtained from the park (the ADT figures for each park road are shown in table 3):

Location	ADT	Percentage of Total Traffic Volume
Visitor center/cyclorama parking area	1,643	100
Main tour route roads (proposed new route)	1,610	98
Roads directly off main tour route and supplementary tour route roads (proposed new route)	1,232	75
Roads directly off supplementary tour route	822	50
Other public use roads	411	25
Administrative use roads	164	10

Table 1: Annual Visitor Use (1974-1983)

Year	Visitors	Vehicles
1974	1,392,368	464,123
1975	1,398,374	466,127
1976	1,770,061	590,021
1977	1,602,342	534,114
1978	1,565,960	521,987
1979	1,068,435	356,145
1980	1,170,764	390,255
1981	1,314,074	438,025
1982	1,225,541	408,514
1983	1,273,349	424,450

Table 2: Monthly Visitor Use (1982 and 1983)

	1982		1983	
	Visitors	Vehicles	Visitors	Vehicles
December	24,238	8,079	20,964	6,988
January	17,038	5,679	22,227	7,409
February	25,527	8,509	26,007	8,669
March	44,773	14,924	59,810	19,937
April	107,185	35,728	116,916	38,972
May	159,141	53,047	145,594	48,531
June	155,941	51,880	162,871	54,290
July	197,450	65,817	213,067	71,022
August	204,583	68,194	184,073	61,358
September	116,509	38,856	120,345	40,115
October	123,025	41,008	146,012	48,671
November	50,131	16,710	55,463	18,488

EXISTING ROAD INVENTORY

Much of the inventory of existing roads was taken from a 1981 FHWA report, "Road Inventory and Needs Study for Gettysburg National Military Park." That report contains an inspection, an inventory of maintenance items (culverts, signs, guardrails, etc.), and a photo log of the entire park road system. The photographs show short road segments for easy reference and study. In most cases the old avenue, road, and lane names have been retained.

Table 3 displays the information used to classify road segments in the park, based on the purpose and function of each road and the intended use. The other categories in the table relate directly to factors to be considered during the design process. The major considerations for road design are amount of use as expressed by ADT volumes, design speed, and type of vehicle using the road. The location of significant cultural resources is not indicated. Because all park roads traverse portions of the battlefield, all resources along the various routes are considered significant.

Each segment of the road system has been assigned a three-digit route number. According to the FHWA report, all class III special purpose roads (interpretive roads) should be assigned a route number from 300 to 399. Nearly all of the roads in Gettysburg are interpretive roads; therefore, the route numbering system has been changed to reflect this use. Old and new route numbers are shown in table 3. The new route numbers are used on the Route Numbers map.

Table 3: Road Classification Inventory

Route Information					Visitor Use		Existing Road Conditions					Notes
New Route Number	Old Route Number	Name/Description	Road Segment	Total Length (mi/km)	Purpose and Function	Average Daily Traffic (ADT)	Traveled Way Width (ft)/ Surface Type*	Shoulder Width (ft)/ Type**	Maximum Grade (pct)/ Condition	Terrain	Speed Limit (mph)	
310	10	Hancock Ave.	From: Taneytown Rd. To: Sedgwick Ave.	1.24 1.996 km	Auto tour route to high water mark	1,610	25/p	3/pg	5/Poor	Rolling	25	
311	11	Sedgwick Ave.	From: Hancock Ave. To: S. Confederate Ave.	0.52 0.838 km	Part of bicycle tour route; auto tour route	1,610	20/p	3/t-pg	5/Good	Rolling	25	
312	12	S. Confederate and Sykes aves.	From: Route 311 To: US BR 15	1.93 3.107 km	Access to Little Round Top; bicycle tour route	1,232	20/p	2	9/Good	Rolling	25	Shoulder width below standard; no trucks
313	13	Wheatfield Road	From: Taneytown Rd. To: W. Confederate Ave.	1.49 2.399 km	Access to peach orchard, wheatfield	1,232	20/p	2/t	5/Poor	Rolling	25	
314	14	United States Ave.	From: Route 310 and 311 To: US BR 15	0. 8 1.757 km	Connector route	1,232	18-22/p	1/t	4/Good	Flat	25	Shoulder width below standard
315	15	N. Sickles Ave.	From: Route 313 To: US BR 15	0.55 0.888 km	Part of bicycle tour route	1,232	18/p	1	7	Rolling	25	Shoulder width and clearance below standard
316	16	Warren Ave.	From: Route 312 To: Route 317	0.30 0.475 km	Auto tour route to Little Round Top	1,610	22/p	3	7	Rolling	--	
NA	17	Crawford Ave.	From: Route 343 To: Route 344	0.80 1.289 km	Access to Devil's Den; connector route	1,610	18/p	1	7	Rolling	--	Remove surface
318	18	W. Confederate Ave.	From: US BR 15 To: PA 116	2.75 4.425 km	Auto route to N. Carolina and Virginia Memorial, bicycle tour route	1,610	20/p	2/t	7/Fair	Rolling	25	No trucks
319	19	Wright and Howe aves.	From: Route 312 To: Park boundary	0.73 1.175 km	Access to south end of park	821	15/p	2/t	7/Fair	Rolling	25	Intersection at PA 134 dangerous; no trucks
320	20	Berdan Ave.	From: Route 318 To: End of loop	0.11 0.183 km	Viewing of monuments	411	11/p	1/t	5	Rolling	--	No trucks
321	21	Pleasonton Ave.	From: PA 134 To: Route 310	0.31 0.494 km	Road from Pennsylvania Memorial	1,232	17/p	3	7	Rolling	--	
322	22	Humphreys Ave.	From: Route 310 To: Route 321	0.10 0.156 km	Road to Pennsylvania Memorial	1,232	17/p	3	7	Rolling	--	
323	23	Reynolds Ave.	From: PA 116 To: US 30	0.98 1.572 km	Auto tour route	1,610	19-21/p	0-1/t	7/Good	Flat	25	Slightly rough surface; no trucks
324	24	Meredith and Stone aves.	From: Route 323 To: US 30	0.50 0.806 km	Route to McPherson Ridge	1,232	19/p	2	7/Fair	Rolling	--	Poor alignment
325	25	Buford Ave.	From: Route 327 To: Route 326	0.63 1.014 km	Auto tour route to Eternal Light Peace Memorial	1,610	18/p	0-2/pg	7/Good	Flat	25	Surface condition below standard

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Note: The special purpose park roads have been reclassified from class I to class III, based on the FHWA "Road Inventory and Needs Study," and route numbers have been changed to the 300-399 series.

NA = not applicable

*p = paved, g = gravel

**pg = paved gutter; t = turf, g = gravelled; 0 = no shoulder
(the paved ditch or turf shoulders appear on either side of roads intermittently for short distances).

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Table 3: Road Classification Inventory (cont.)

Route Information					Visitor Use		Existing Road Conditions					Notes
New Route Number	Old Route Number	Name/Description	Road Segment	Total Length (mi/km)	Purpose and Function	Average Daily Traffic (ADT)	Traveled Way Width (ft)/ Surface Type*	Shoulder Width (ft)/ Type**	Maximum Grade (pct)/ Condition	Terrain	Speed Limit (mph)	
326	26	North Confederate Ave.	From: Route 325 To: Route 327	0.36 0.573 km	Auto tour route to Oak Ridge	1,610	16/p	0-1/t	?/Fair	Flat	--	
327	27	Wadsworth and Doubleday aves.	From: Mummasburg Road To: Route 325	0.55 0.879 km	Auto tour route	1,610	18/p	3	?/Good	Flat	--	Surface condition below standard
328	28	Howard Ave.	From: Beginning To: US BR 15	0.95 1.522 km	Supplementary auto tour route	1,232	18/p	0-1/t	?/Fair	Rolling	--	Surface condition below standard; no trucks
329	29	E. Confederate Ave.	From: Park boundary To: Route 374	1.31 2.105 km	Supplementary auto tour route	1,232	18-20/p	0-1/t	?/Good	Rolling	25	No trucks
330	30	Slocum Ave.	From: Adams County 97 To: Route 334	1.15 1.847 km	Supplementary auto tour route	1,232	16/p	0	?/Fair-Good	Rolling	--	Horizontal clearance below standard; tight turns
332	32	Williams Ave.	From: Route 330 To: Route 330	0.31 0.488 km	Connector route	821	18/p	3	?/Fair	Flat	--	
333	33	Geary Ave.	From: Route 330 To: Route 330	0.38 0.607 km	Connector route	821	16/p	1	?/Fair	Rolling	--	Shoulder width below standard
334	34	Colgrove and Carman aves.	From: PA 97 To: Route 329	0.48 0.764 km	One-way exit from Spangler's Spring	821	16/p	3	?/Fair	Rolling	25	
335	35	Hunt Ave.	From: PA 134 To: PA 97	0.54 0.869 km	Access to visitor center	1,232	18/p	1	?/Fair	Rolling	25	Shoulder width below standard; no trucks
336	36	Granite School House Road	From: PA 97 To: PA 134	0.82 1.319 km	Access to visitor center	1,232	17/p	2	?/Fair	Rolling	25	
337	37	Cemetery loop	From: PA 134 To: End of loop	0.60 0.970 km	Loop route through cemetery	1,232	18/p	0	?/Fair	Rolling	15	No trucks
338	38	Benner's Hill Ave.	From: PA 116 To: End of loop	0.25 0.405 km	Access to Benner's Hill	411	12	0	?/Fair	Flat	--	Surface condition below standard
339	39	Robinson Ave.	From: Mummasburg Road To: Route 327	0.15 0.246 km	Access to Oak Ridge monuments	821	15	0-1	?/Fair	Rolling	25	Shoulder width below standard
340	40	Seminary Ave.	From: PA 116 To: US 30	0.34 0.542 km	Connector route	821	18	3	?/Fair	Rolling	--	
341	41	Wainwright Ave.	From: Route 330 To: Park boundary	0.36 0.573 km	Access to Cemetery Hill	1,232	12	2	?/Fair	Rolling	--	Vertical clearance below standard
342	42	S. Sickles Ave.	From: Route 317 To: Route 313	0.49 0.790 km	Access to the wheatfield; auto tour route	1,610	18	1/t	?/Good	Rolling	--	
343	43	DeTrobriand, Brooke, and Cross aves.	From: Route 316 To: Route 342	0.79 1.266 km	Auto tour route	1,610	14	2	?/Fair	Rolling	--	Shoulder width below standard
344	44	Ayres Ave.	From: Route 317 To: Route 313	0.30 0.483 km	Viewing of the wheatfield	1,232	14	2	?/Fair	Rolling	--	Remove paved surface
350	50	Visitor center access	From: Taneytown Rd. To: US BR 15	0.13 0.208 km	Visitor center access	1,643	24	3	?/Fair	Rolling	--	Shoulder width below standard
351	51	Cyclorama center drive and parking	From: Taneytown Rd. To: US BR 15	0.235 0.38 km	Access to cyclorama	1,643	20	6	?	Flat, sloping	15	

Table 3: Road Classification Inventory (cont.)

Route Information					Visitor Use		Existing Road Conditions					Notes
New Route Number	Old Route Number	Name/Description	Road Segment	Total Length (mi/km)	Purpose and Function	Average Daily Traffic (ADT)	Traveled Way Width (ft)/ Surface Type*	Shoulder Width (ft)/ Type**	Maximum Grade (pct)/ Condition	Terrain	Speed Limit (mph)	
157	57	Culp's Hill overlook	From: Slocum Ave. To: Culp's Hill overlook	0.16 0.26 km	Access to overlook, supplementary tour route	1,232	20	2	?	Rolling	25	
101	100	National cemetery annex parking lot	Parking Lot	0.250 0.40 km	Overflow parking	821	NA	NA	?	Flat, sloping	15	
351	200	E. Cavalry Avenue	From: PA 116 To: Low Dutch Road	0.56 0.903 km	Viewing of E. Cavalry battlefield	411	12	--	?/Fair	Flat	--	
351	201	Confederate Cavalry Ave.	From: Low Dutch Road To: Park boundary	1.58 2.539 km	Viewing of E. Cavalry battlefield	411	15	3	--	Rolling	--	Surface condition below standard
NA	202	Birney Avenue	From: US BR 15 To: Wheatfield Rd.	0.160 0.26 km	Connector route	821	12	2	?/Fair	Flat	--	Remove surface
400	400	Althoff Lane	From: Route 314 To: Route 313	0.39 0.628 km	Administrative road	164	18/g	0	?/Fair	Flat	15	
401	401	McMillan Woods Road	From: Route 318 To: Dead End	0.28 0.447 km	Administrative road	164	12/g	0	?/Fair	Rolling	15	
402	402	Bushman Farm Lane	From: Route 403 To: Route 312	0.21 0.339 km	Historic lane	164	10/g	0	1/Poor	Rolling	15	
403	403	Slyder Lane	From: US BR 15 To: Farm	0.32 0.512 km	Historic lane	164	12/g	0	3/Poor	Rolling	15	Slightly rough
404	404	Rose Farm Lane	From: US BR 15 To: Farm	0.11 0.174 km	Historic lane	164	14/g	0	?/Fair	Rolling	15	
405	405	Maintenance access road	From: PA 134 To: Parking Area	0.01 0.021 km	Maintenance access	164	14/g	0	?/Good	Flat	15	
407	407	Wills Farm Lane	From: Route 325 To: Farm	0.24 0.393 km	Historic lane	164	14/g	0	?/Good	Flat	15	Very rough
410	410	Weikert Lane	From: Route 311 To: Route 311	0.090 0.145 km	Historic lane	164	12/g	0	?/Good	Flat	15	Very rough
411	411	Pitzer Woods service road	From: Route 320 To: Boundary	0.250 0.40 km	Administrative road	164	11/g	0	?/Fair	Flat	15	Rough
412	412	Spangler Lane	From: US BR 15 To: Route 318	0.56 0.903 km	Historic lane	164	12/g	0	?/Fair	Flat	15	
413	413	Cobean Lane	From: PA 34 To: Farm	0.30 0.483 km	Historic lane	164	12	0	?/Fair	Flat	15	Chip-tar surface
414	414	McClean Lane	From: Mummasburg Road To: Farm	0.24 0.393 km	Historic lane	164	12/g	0	?/Fair	Flat	15	
415	415	Culp Lane	From: Middle Street To: Farm	0.11 0.174 km	Historic lane	164	12/g	0	?/Fair	Flat	15	

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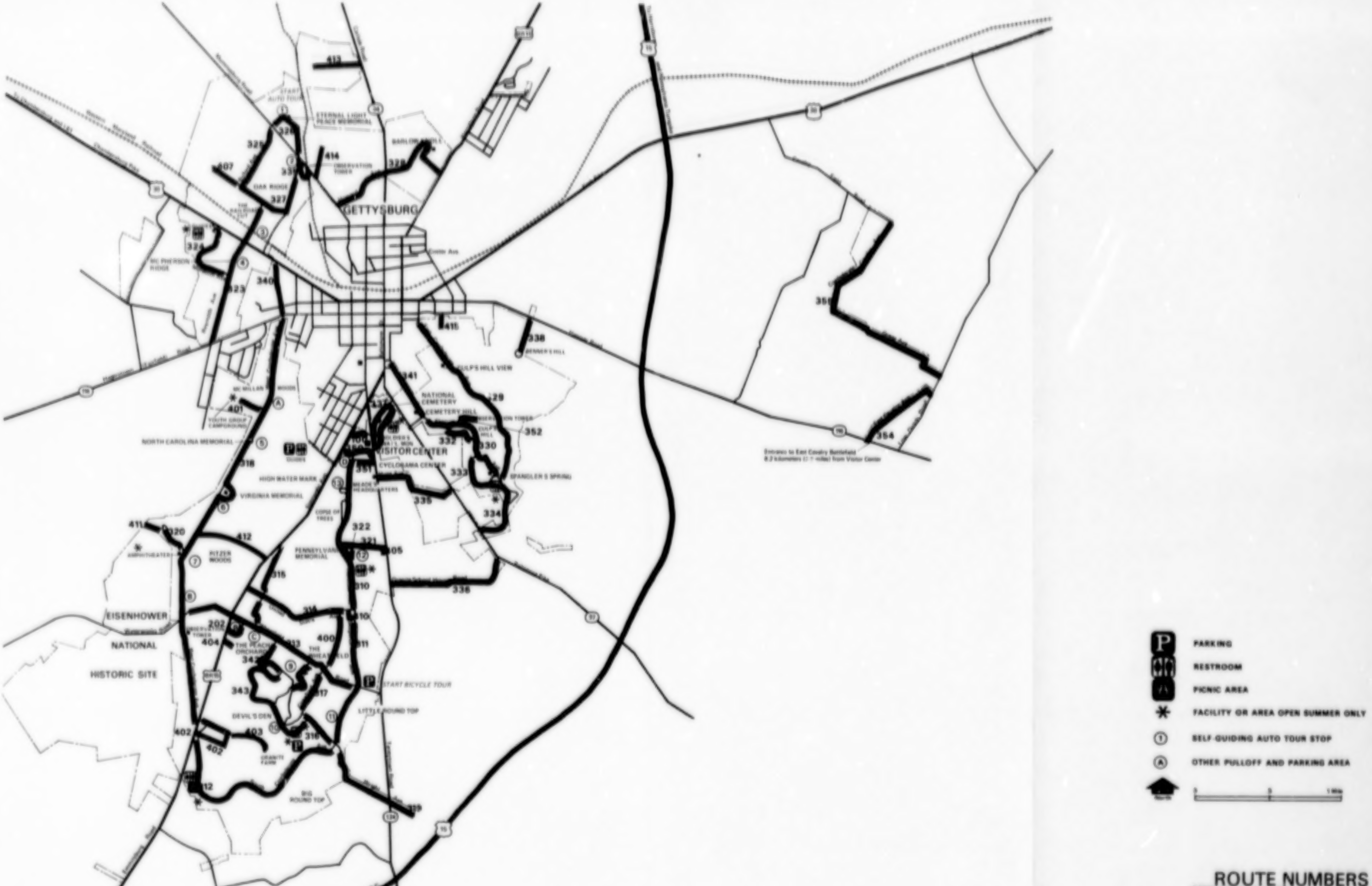

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RECOMMENDATIONS

This section recommends the functional classification of each park road, the design standard (including design speed, roadway width, surface type, sight distances, and measures to correct road hazards) for each road according to its level of use, a new numbering system based on classification, and any other special considerations. The location and type of improvements for turnouts (waysides) are also described. The majority of recommendations are depicted in table 4.

FUNCTIONAL CLASSIFICATION

The national park system encompasses many types of environments and provides a wide variety of visitor use activities. Therefore, park road systems must be designed to serve a wide range of functions and levels of use. The assignment of a functional classification to a park road is not based on traffic volumes or design speed, but rather on the intended use or function of a particular road. Once the road has been classified, traffic volumes, design speed, and vehicle type become critical in determining how the road will be designed.

For purposes of functional classification at Gettysburg, two categories have been used: public use park roads and administrative park roads.

Public Use Park Roads

All public use park roads are intended principally for the use of visitors for access into and within a park. This includes all roads that provide vehicular passage for visitors or access to such representative park areas as points of scenic or historic interest. County, state, and US highways maintained by the National Park Service are also included in this category.

Public use park roads throughout the national park system have been subdivided into the following four classes:

Class I - Principal Park Roads: roads that constitute the main access route, circulatory tour, or thoroughfare for park visitors (this class is not used at Gettysburg)

Class II - Connector Park Roads: roads that provide access within a park to areas of scenic, scientific, recreational, or cultural interest, such as overlooks and campgrounds

Class III - Special Purpose Park Roads: roads that provide circulation within public use areas (such as campgrounds, picnic areas, visitor center complexes, and concessioner facilities), that generally serve low-speed traffic, and that are often designed for one-way circulation

Class IV - Primitive Park Roads: roads that are used exclusively by special vehicles, that usually provide access to undeveloped areas of scientific or cultural interest, that generally serve low-speed traffic (recreation driving or sightseeing), that are not engineered, and that generally receive little, if any, maintenance (this class is not used at Gettysburg)

Administrative Park Roads

The administrative park road category consists of all public and nonpublic roads throughout a park that are intended to be used principally for administrative purposes. It includes roads serving employee residential areas, maintenance areas, and other administrative developments, as well as restricted patrol roads, truck trails, and similar service roads. Administrative park roads are subdivided into two classes:

Class V - Administrative Access Roads: all public roads intended for access to administrative developments or structures, such as park offices, employee quarters, or utility areas

Class VI - Restricted Roads: all roads normally closed to the public, including patrol roads, truck trails, and other similar roads (this class is not used at Gettysburg)

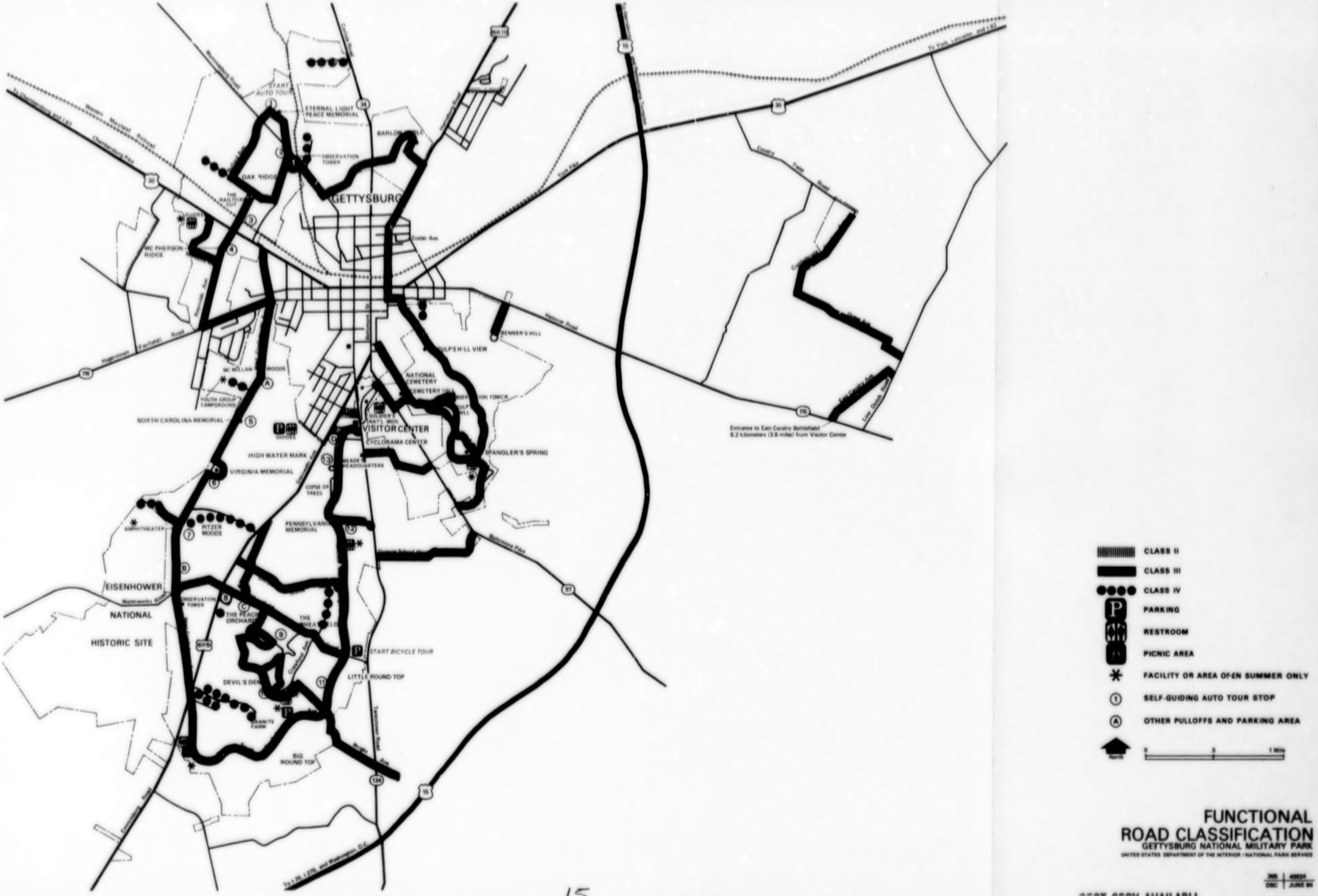
DESIGN STANDARDS

The design standards for Gettysburg's roads are shown in table 4. The major factors considered during design standard formulation are described below. The Gettysburg road system is unique in that nearly every road in the park is classified as a low-speed special purpose road (class III).

It is important to note that the roads at Gettysburg are in good condition, and reconstruction will probably not be necessary during the next five to 10 years. Therefore, the design standards presented in table 4 are primarily for informational purposes. At the time that any of Gettysburg's roads must be reconstructed, these standards should be considered.

Typically, roads should be designed to provide reasonably direct, leisurely, and safe visitor access to park features and to facilitate the administration and protection of park resources. Various controls and criteria are used to ensure that a road will safely accommodate the expected traffic requirements and to encourage consistency and uniformity of operation. Primary considerations in road design are the types of terrain traversed, environmental constraints, and the desired visitor experience. These considerations are addressed through the selection and application of appropriate design controls, which include design volume, design speed, and design vehicle.

The design volume describes the traffic load that a road must be able to accommodate, and it determines to a large degree the type of facility and pavement widths required, as well as other geometric features. The



FUNCTIONAL ROAD CLASSIFICATION

GETTYSBURG NATIONAL MILITARY PARK

UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

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Table 4: Recommended Classification and Design Standards

New Route Number	Old Route Number	Name	Length (miles/km)	Projected Volume (ADT)* Design Volume (vehicles per day)	Design Speed/ Posted Speed Limit		Traveled Way Width (ft)/Surface Type**	Shoulder Width (ft)/Surface Type***	One-Way Roadway Width (ft)/ Surface Type	Maximum Grade (pct)		Stopping Sight Distance (ft)	Passing Sight Distance (ft)	Intersection Sight Distance (ft)	Notes
					Flat Terrain	Rolling Terrain				Flat	Rolling				
CLASS II -- CONNECTOR PARK ROADS															
100	100	National cemetery annex parking lot	0.259/0.42	1,231 1,000-4,000	20/15		NA				NA	NA	NA	NA	Parking lot
NA	202	Birney Ave.	0.160/0.26	--	--	--	--	--	--	--		--	--	--	Remove paved surface
CLASS III -- SPECIAL PURPOSE PARK ROADS															
310	10	Hancock Ave.	1.24/1.99	2,415 1,000-4,000		30/25			14/p		10	200	1,100	300	
311	11	Sedgwick Ave.	0.52/0.838	2,415 1,000-4,000		30/25			14/p		10	200	1,100	300	
312	12	Sykes and S. Confederate aves.	1.93/3.107	1,848 1,000-4,000		30/25	22/p	3/pg-t			10	200	1,100	300	No trucks
313	13	Wheatfield Road	1.45/2.399	1,848 1,000-4,030		30/25	22/p	3/pg-t				200	1,100	300	
314	14	United States Ave.	0.78/1.257	1,848 1,000-4,000	35/25		22/p	3/pg-t		7		225	1,300	350	
315	15	N. Sickles Ave.	0.55/0.888	1,848 1,000-4,000		30/25	22/p	3/pg-t			10	200	1,100	300	
316	16	Warren Ave.	0.30/0.475	2,415 1,000-4,000		30/25			14/p		10	200	1,100	300	Add car parking spaces near Little Round Top
NA	17	Crawford Ave.	--	--	--	--	--	--	--	--	--	--	--	--	Remove paved surface
318	18	W. Confederate Ave.	2.75/4.425	2,415 1,000-4,000		30/25	22/p	3/pg-t			10	200	1,100	300	No trucks
319	19	Wright and Howe aves.	0.73/1.175	1,231 1,000-4,000		30/20	22/p	3/pg-t			10	200	1,100	300	No trucks
320	20	Berdan Ave.	0.11/0.183	616 400-1,000		25/20	22/p	3/pg-t			10	150	1,000	250	
321	21	Pleasonton Ave.	0.31/0.494	1,848 1,000-4,000		30/25	22/p	3/pg-t			10	200	1,100	300	
322	22	Humphreys Ave.	0.10/0.156	1,848 1,000-4,000		30/25	22/p	3/pg-t			10	200	1,100	300	

Note: Special purpose park roads have been reclassified from class I to class III roads, and their route numbering system has been changed to the 300-399 series.

NA = not applicable

*ADT projected to the year 2004

**p = paved; g = gravel.

***pg = paved gutter; t = stabilized turf.

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Table 4: Recommended Classification and Design Standards (cont.)

New Route Number	Old Route Number	Name	Length (miles/km)	Projected Volume (ADT) Design Volume (vehicles per day)	Design Speed/ Posted Speed Limit Flat Terrain	Design Speed/ Posted Speed Limit Rolling Terrain	Traveled Way Width (ft)/Surface Type**	Shoulder Width (ft)/Surface Type***	One-Way Roadway Width (ft)/ Surface Type	Maximum Grade (pct) Flat	Maximum Grade (pct) Rolling	Stopping Sight Distance (ft)	Passing Sight Distance (ft)	Intersection Sight Distance (ft)	Notes
323	23	Reynolds Ave.	0.98/1.577	2,415 1,000-4,000	35/25		22/p	3/pg-t		7		225	1,300	350	No trucks
324	24	Meredith and Stone aves.	0.50/0.805	1,848 1,000-4,000		30/25	22/p	3/pg-t			10	200	1,100	300	
325	25	Buford Ave.	0.63/1.014	2,415 1,000-4,000	35/25				14/p	7		225	1,300	350	
326	26	North Confederate Ave.	0.36/0.573	2,415 1,000-4,000	35/25		22/p	3/pg-t		7		225	1,300	350	
327	27	Wadsworth and Doubleday aves.	0.55/0.879	2,415 1,000-4,000	35/25		22/p	3/pg-t		7		225	1,300	350	
328	28	Howard Ave.	0.95/1.522	1,848 1,000-4,000		30/25	22/p	3/t			10	200	1,100	350	Rehabilitate parking area; no trucks
329	29	E. Confederate Ave.	1.31/2.105	1,848 1,000-4,000		30/25	22/p	3/t			10	200	1,100	350	No trucks
330	30	Slocum Ave.	1.15/1,847	1,848 1,000-4,000		30/25	22/p	0			10	200	1,100	350	
332	32	Williams Ave.	0.31/0.488	1,231 1,000-4,000	20/25		22/p	3/pg-t		8		125	800	200	
333	33	Geary Ave.	0.38/0.607	1,231 1,000-4,000		30/25	22/p	1			10	200	1,100	300	
334	34	Colgrove and Carman aves.	0.48/0.768	1,231 1,000-4,000		30/25	22/p	3/p	11		10	200	1,100	300	
335	35	Hunt Ave.	0.54/0.869	1,848 1,000-4,000		20/25	22/p	3/p			11	125	800	200	
336	36	Granite School House Road	0.82/1.319	1,848 1,000-4,000		20/25	22/p	3/p			11	125	800	200	
337	37	Cemetery loop	0.60/0.970	1,848 1,000-4,000		20/15	22/p	3/t			11	125	800	200	
338	38	Benner's Hill Ave.	0.25/0.405	616 400-1,000		20/25	20/p	3		8		125	800	200	
339	39	Robinson Ave.	0.15/0.241	1,231 1,000-4,000		20/25	22/p	3/t			11	125	800	200	
340	40	Seminary Ave.	0.34/0.547	1,231 1,000-4,000		20/25	22/p	3			11	125	800	200	
341	41	Wainwright Ave.	0.36/0.573	1,848 1,000-4,000		20/25	22/p	3			11	125	800	200	
342	42	S. Sickles Ave.	0.49/0.790				22/p	3				125	800	200	
343	43	DeTrobriand, Brooke, and Cross aves.	0.17/1.265	2,415 1,000-4,000		30/25		3	14						Eliminate short segment of road; relocate as per Development Concept Plan for Little Round Top

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Table 4: Recommended Classification and Design Standards (cont.)

New Route Number	Old Route Number	Name	Length (miles/km)	Projected Volume (ADT) Design Volume (vehicles per day)	Design Speed/ Posted Speed Limit		Traveled Way Width (ft)/Surface Type**	Shoulder Width (ft)/Surface Type***	One-Way Roadway Width (ft) /Surface Type	Maximum Grade (pct)		Stopping Sight Distance (ft)	Passing Sight Distance (ft)	Intersection Sight Distance (ft)	Notes
					Flat Terrain	Rolling Terrain				Flat	Rolling				
NA	44	Ayres Ave.	0.30/0.483								11				Remove paved surface
350	50	Visitor center access	0.13/0.208	2,464 1,000-4,000		20/15	22/p	3		8		125	800	200	
351	51	Cyclorama center drive and parking	0.235/0.38	2,464 1,000-4,000		20/15	22/p	3		8		125	800	200	
352	52	Culp's Hill overlook	0.160/0.26	1,848 1,000-4,000		30/25	22/p	3			10	200	1,100	300	
354	200	East Cavalry Ave.	0.56/0.903	616 1,000-4,000		20/15	22/p	3			11	125	800	200	
355	201	Confederate Cavalry Ave.	1.58/2.539	616 1,000-4,000	20/15		22/p	3		8		125	800	200	
CLASS V -- ADMINISTRATIVE PARK ROADS															
400	400	Althoff Lane	0.39/0.628	246 <400	20/15		18/g			8		125	800	200	
401	401	McMillian Woods Lane	0.28/0.447	246 <400		20/15	18/g				11	125	800	200	
402	402	Bushman Farm Lane	0.21/0.339	246 <400		20/15	18/g				11	125	800	200	
NA	403	Slyder Lane	0.32/0.512	--		--	--	--	--	--	--	--	--	--	
404	404	Rose Farm Lane	0.11/0.174	246 <400		20/15	18/g				11	125	800	200	
405	405	Maintenance access road	0.01/0.021	246 <400	20/15		18/g			8		125	800	200	
407	407	Wills Farm Lane	0.24/0.393	246 <400	20/15		18/g			8		125	800	200	
410	410	Weikert Lane	0.090/0.145	246 <400	20/15		18/g			8		125	800	200	
411	411	Pitzer Woods service road	0.268/0.43	246 <400	20/15		18/g			8		125	800	200	
412	412	Spangler Lane	0.56/0.903	246 <400	20/15		18/g			8		125	800	200	
413	413	Cobean Lane	0.30/0.483	246 <400	20/15		18/g			8		125	800	200	
414	414	McClean Lane	0.24/0.393	246 <400	20/15		18/g			8		125	800	200	
415	415	Culp Lane	0.11/0.174	246 <400	20/15		18/g			8		125	800	200	

Proposed Pulloffs and Parking Areas on New Self-Guiding Tour Route

1. Eternal Light Peace Memorial: This is the beginning of the new auto tour route. The memorial was dedicated in 1938, on the 75th anniversary of the battle, to "Peace Eternal in a Nation United." The arrival of Gen. Robert Rodes's Confederate division on this hill at 1 p.m. on July 1, 1863, threatened Union forces west and north of Gettysburg.

2. Oak Ridge: Union troops here held stubbornly against Rodes's advance from Oak Hill to the north on the afternoon of July 1.

3. The Railroad Cut: Two Mississippi regiments were trapped and captured in this area, which was the scene of particularly vicious fighting between 10 a.m. and 11 a.m. on July 1.

4. McPherson Ridge: Just beyond McPherson's barn, the battle of Gettysburg began early on July 1. Gen. John F. Reynolds, whose Union infantry held this line, was killed in the woods to the left.

5. North Carolina Memorial: Along and in front of this ridge, Gen. Robert E. Lee marshaled his forces, among them thousands of North Carolinians, for the supreme effort on July 3.

6. Virginia Memorial: General Lee watched the gallant charge of July 3 from here. When it failed, he rode to the fields in front and rallied his men.

7. Pitzer Woods: After a skirmish at noon on July 2, the Confederates occupied these woods. Four hours later they attacked and smashed Gen. Daniel Sickles's line along the road, 0.5 kilometer (0.3 mile) to the east.

8. The Peach Orchard: On July 2 Sickles's Union salient extended from Devil's Den to here, then angled northward on Emmitsburg Road. Union batteries from this high ground bombarded Confederates to the south and west before Maj. Gen. James Longstreet's attack shattered their line.

9. The Wheatfield: Clash after clash of troops on July 2 left these fields blood-soaked but resulted in little significant gain for either side.

10. The Triangular Field: By late afternoon on July 2, Confederate troops were attempting to silence Smith's battery, which was situated on Houck's Ridge. A see-saw battle up and down the field resulted in Houck's Ridge and Smith's battery finally being taken by Confederate infantry.

11. Little Round Top: Quick action by Maj. Gen. George G. Meade's chief engineer, Gen. Gouverneur Warren, alerted Union commanders to the impending Confederate attack here on July 2 and foiled southern hopes for an early victory.

12. Pennsylvania Memorial: On a field noted for its monuments, this one is outstanding. Statues of officers and bronze nameplates call the roll of nearly 35,000 Pennsylvanians who fought here.

13. High Water Mark: Here at the Copse of Trees and The Angle, Gen. George E. Pickett's charge was halted on July 3. This was the climax at Gettysburg.

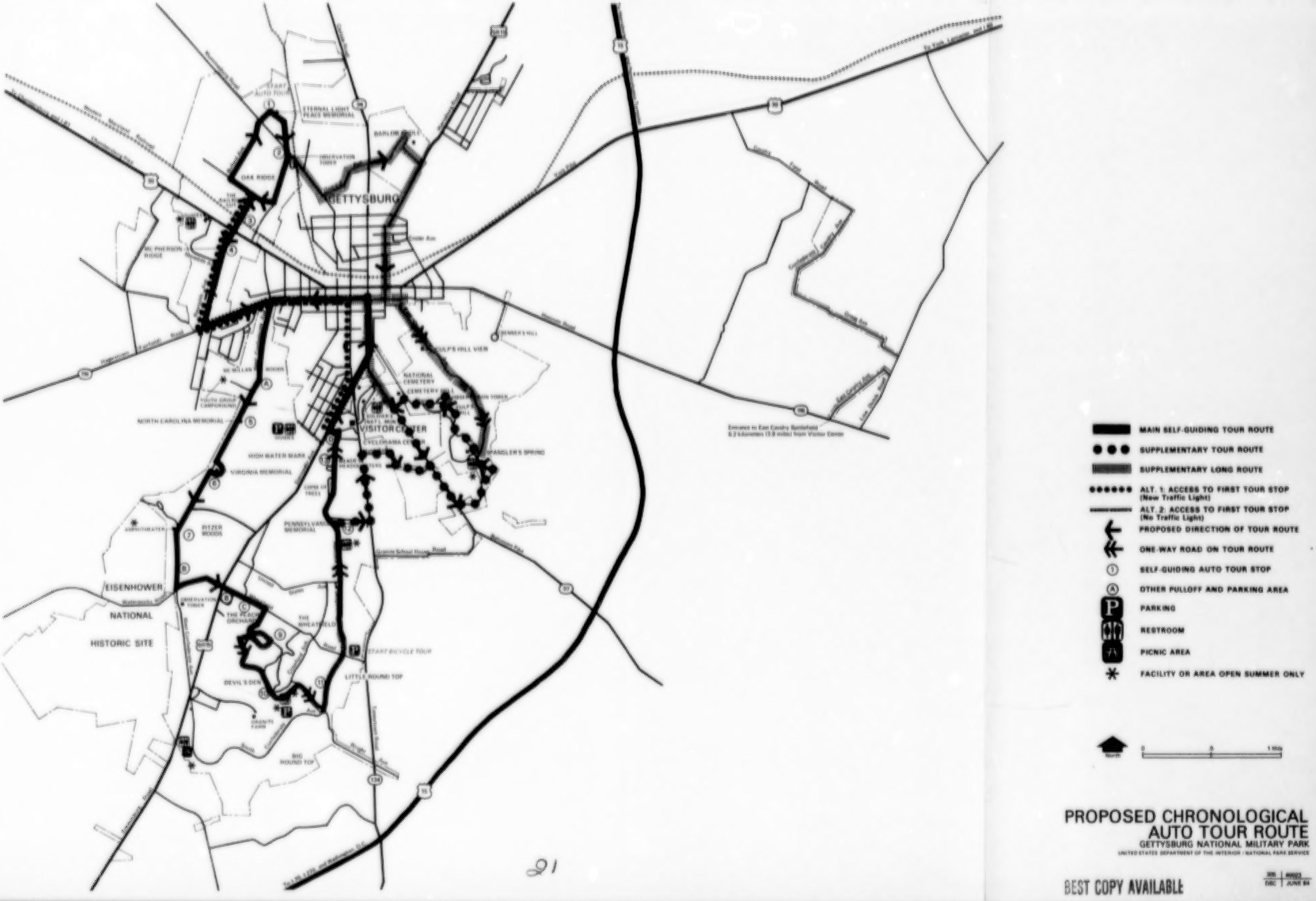
Proposed Pulloffs and Parking Areas Not Directly Related to the New Tour Route

A. Third Corps Marker (Pender's Division)

B. Mississippi Memorial

C. Action Front Wayside

D. Cyclorama Parking on Hancock Avenue



PROPOSED CHRONOLOGICAL AUTO TOUR ROUTE

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design volume is established by calculating the anticipated traffic use of the roadway during the park's normal visitor season. For Gettysburg the existing ADT was multiplied by a projection factor of 1.5, which is a 20-year projection (to the year 2004) based on park visitation trends.

The design speed affects such roadway features as curvature, superelevation, sight distance, and gradient. The selection of the design speed is primarily influenced by the purpose of a particular park road, the desired traffic volumes, terrain, and environmental considerations. The roads at Gettysburg will continue to be low-speed roads that will allow visitors sufficient time to view the park's many monuments.

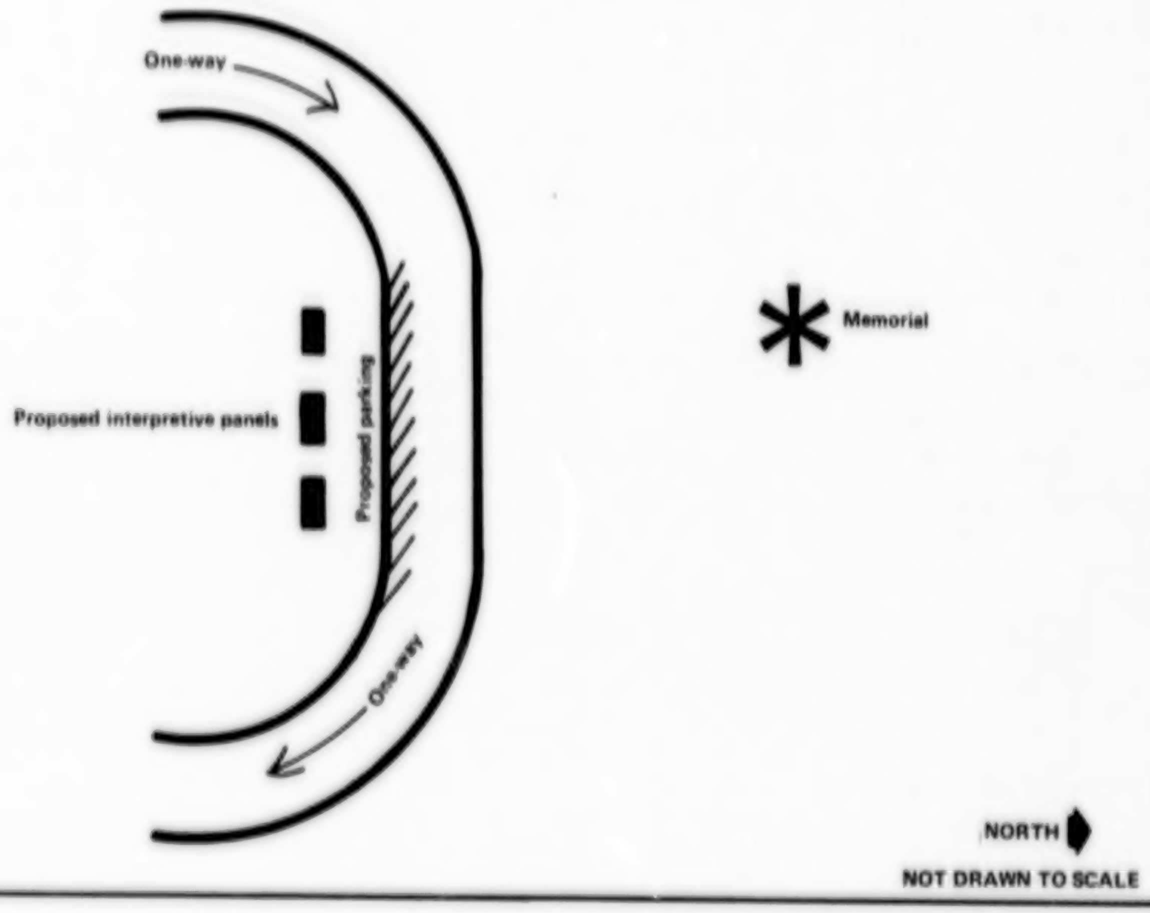
The design vehicle is the type of vehicle permitted to use a particular road. The fact that buses and recreation vehicles travel a roadway has a profound effect on sight distances, the roadway cross-section, intersection design, and other geometric design criteria.

PROPOSED SELF-GUIDING AUTO TOUR ROUTE

The Proposed Chronological Auto Tour Route map depicts the new self-guiding auto tour route plus two supplementary routes. The new tour route will begin at the visitor center, with the first stop being the Eternal Light Peace Memorial at the northern end of the park. FHWA personnel will recommend directional highway signing and traffic markers to guide visitors from the visitor center to the beginning of the tour. Two alternative routes are being considered for visitors to get from the center to the Eternal Light Peace Memorial (see map). The map and the accompanying sketches show the location of each tour stop as well as improvements for pulloffs and parking areas at these stops. In addition, several other pulloff and parking changes are shown, even though they do not directly relate to the tour route change. The park staff has suggested that paved gutters be used to provide additional pulloff space, but this is not indicated on the maps or sketches.

Several waysides are identified in the current "Interpretive Prospectus," such as waysides for the Longstreet tower and Rose farm as well as those listed for supplementary or alternative routes. Some additional proposed waysides include park orientation waysides along US BR 15 north and south, US 30 east and west, PA 116 east, and PA 97; a wayside at the visitor center for the beginning of the auto tour route; and additional waysides at Barlow Knoll, Culp's Hill, Spangler's Spring, Culp's Hill tower, Cemetery Hill (pulloff also needed), Meade's headquarters site, and East Cavalry battlefield. Orientation waysides should also be provided at each entrance to Gettysburg National Cemetery. (Sketches for these pulloffs are not included in this study.)

TOUR STOP 1: ETERNAL LIGHT PEACE MEMORIAL

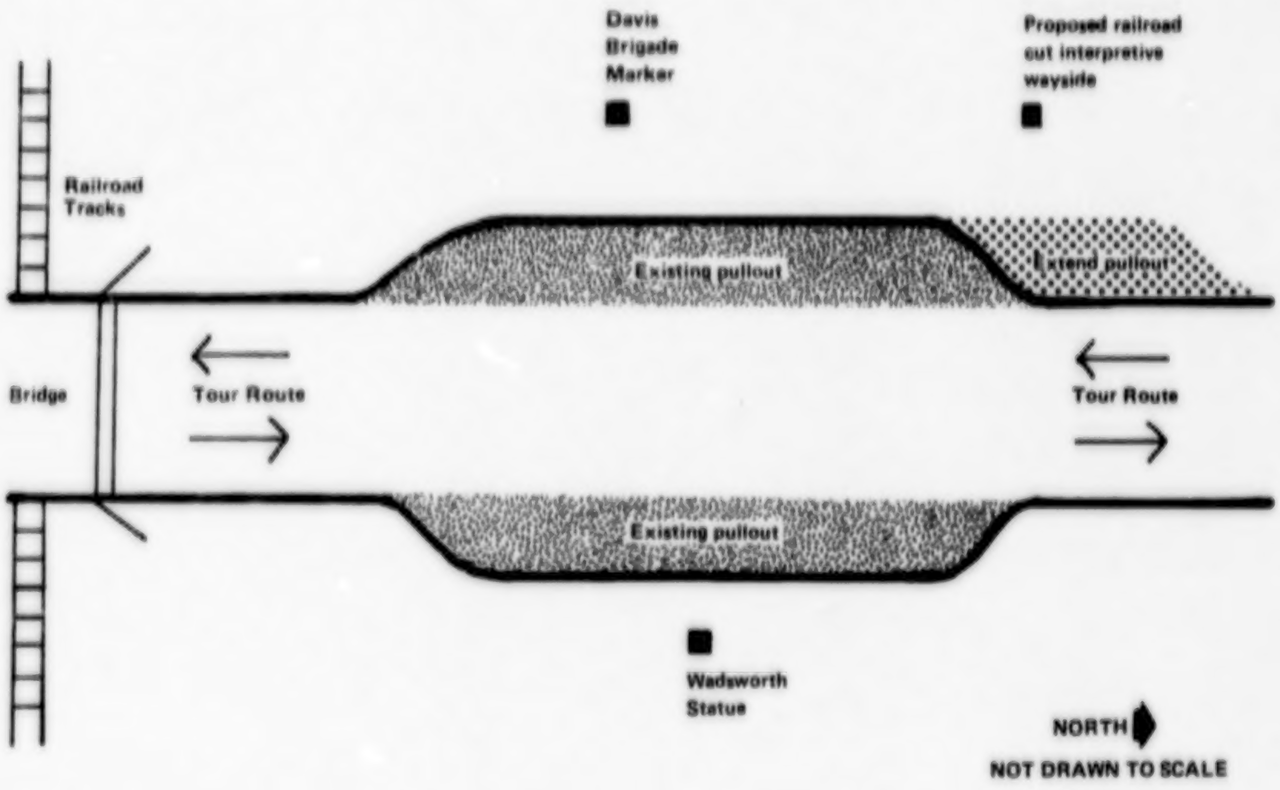


TOUR STOP 2: OAK RIDGE

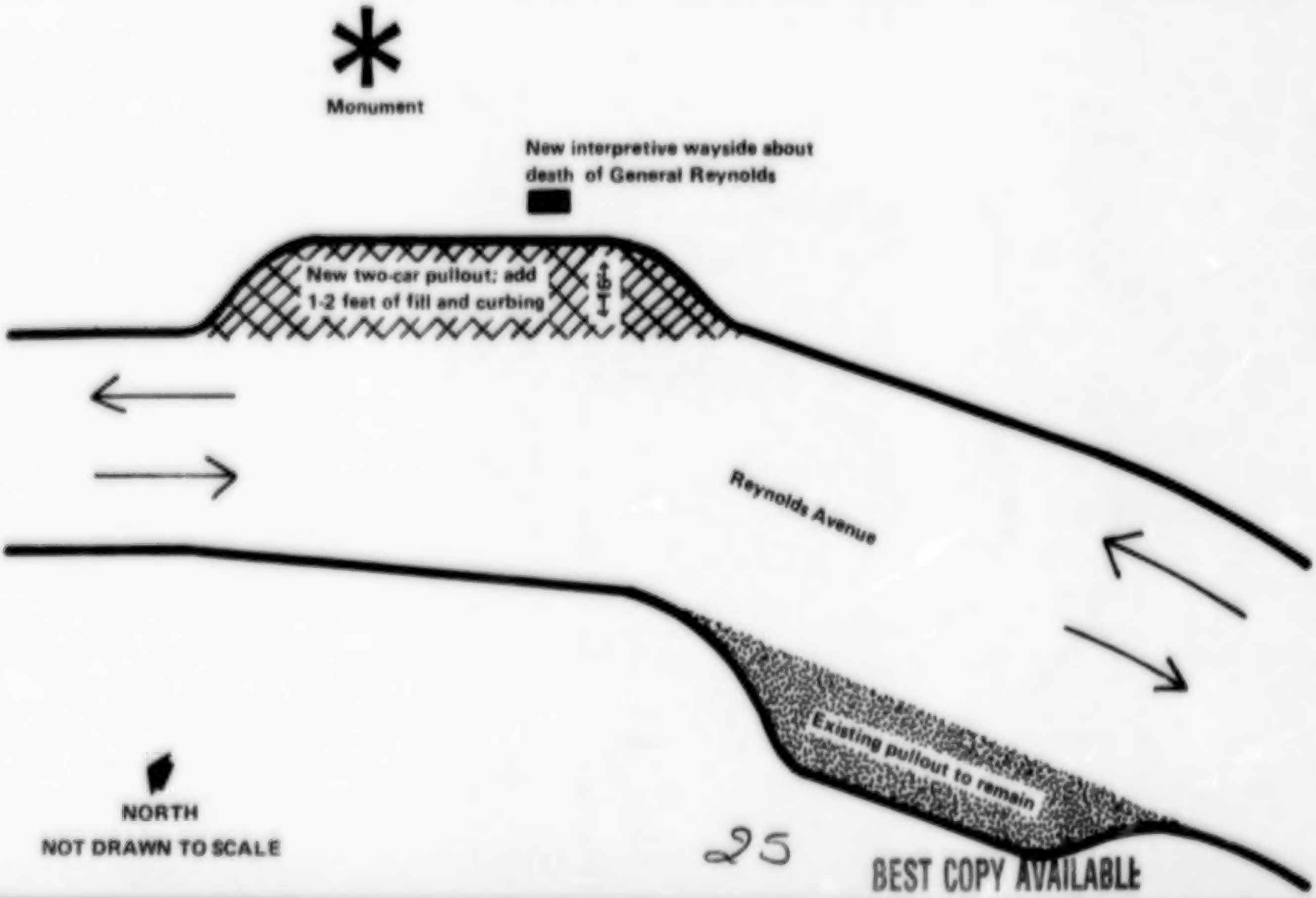
NO CHANGE

BEST COPY AVAILABLE

TOUR STOP 3: THE RAILROAD CUT



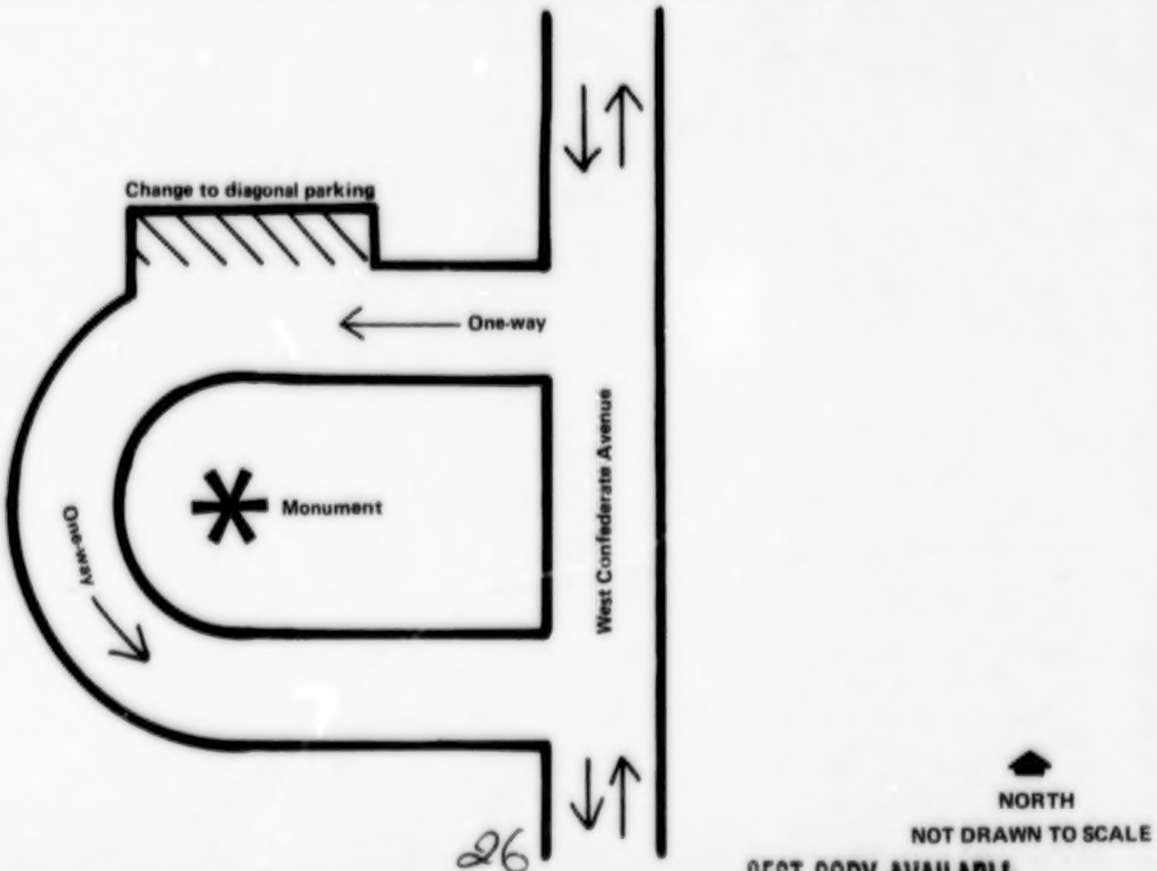
TOUR STOP 4: McPHERSON RIDGE


Monument
New interpretive wayside about death of General Reynolds
New two-car pullout; add 1-2 feet of fill and curbing
16'
Reynolds Avenue
Existing pullout to remain
NORTH
NOT DRAWN TO SCALE

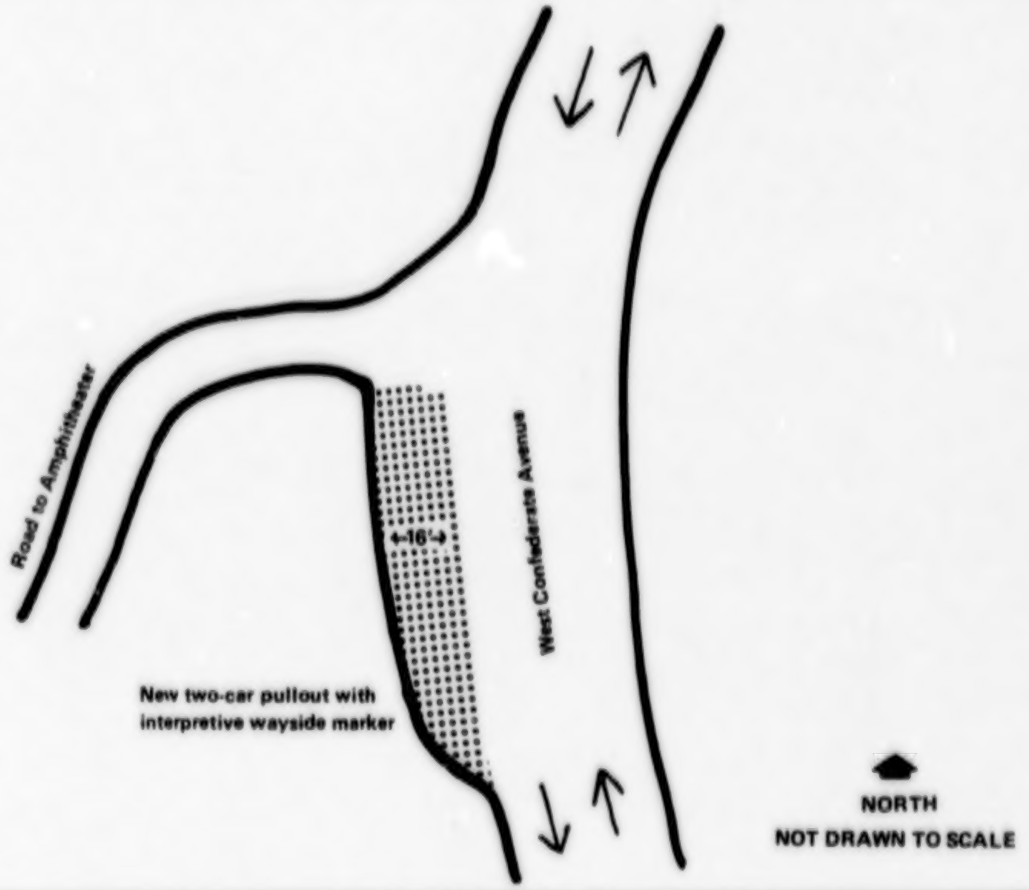
TOUR STOP 5: NORTH CAROLINA MEMORIAL

NO CHANGE

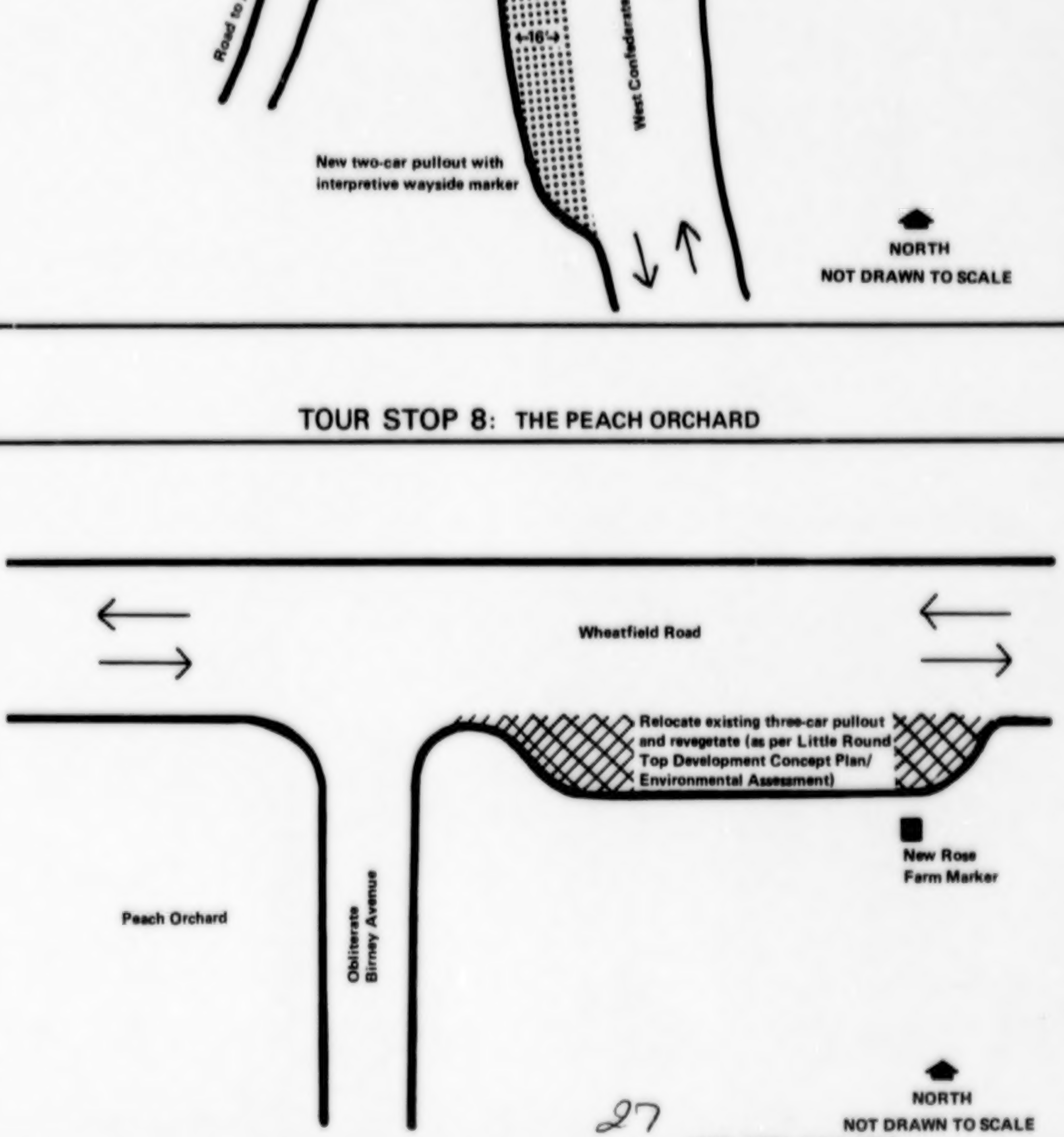
TOUR STOP 6: VIRGINIA MEMORIAL



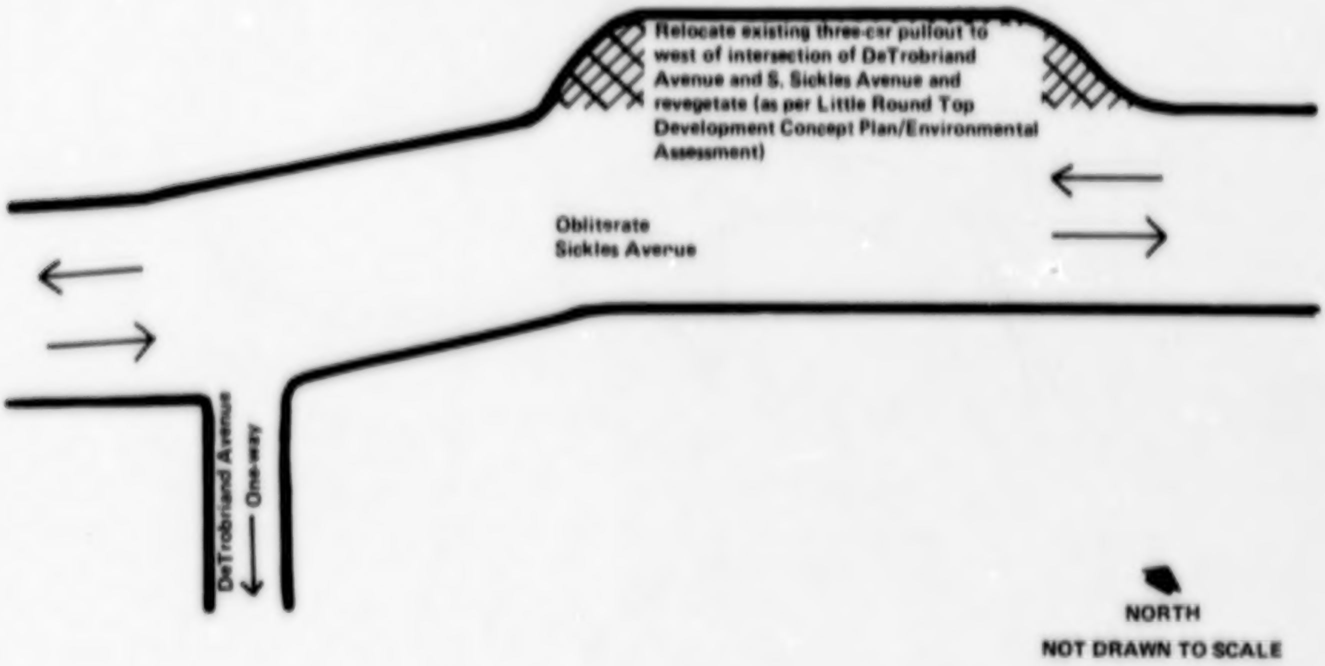
TOUR STOP 7: PITZER WOODS



TOUR STOP 8: THE PEACH ORCHARD


Wheatfield Road
Relocate existing three-car pullout
and revegetate (as per Little Round
Top Development Concept Plan/
Environmental Assessment)
New Rose
Farm Marker
Peach Orchard
Obliterate
Birney Avenue
NORTH
NOT DRAWN TO SCALE

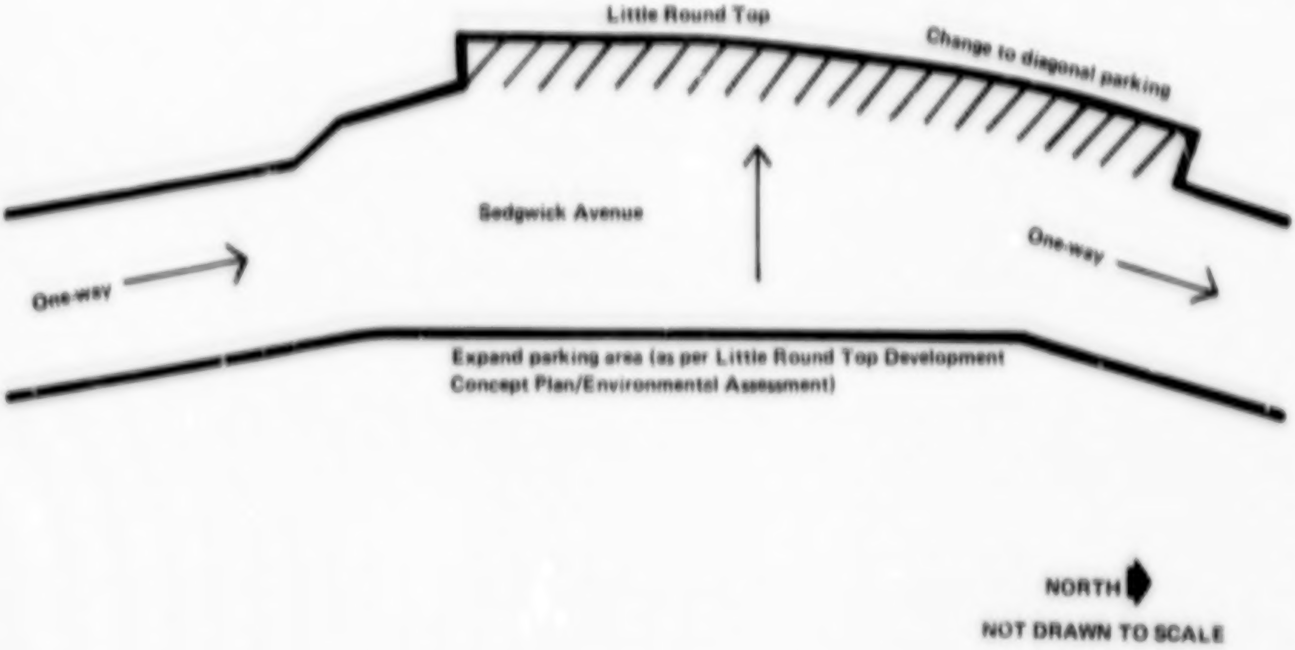
TOUR STOP 9: THE WHEATFIELD


Relocate existing three-car pullout to west of intersection of DeTrobriand Avenue and S. Sickles Avenue and revegetate (as per Little Round Top Development Concept Plan/Environmental Assessment)
Obliterate Sickles Avenue
DeTrobriand Avenue
One-way
NORTH
NOT DRAWN TO SCALE

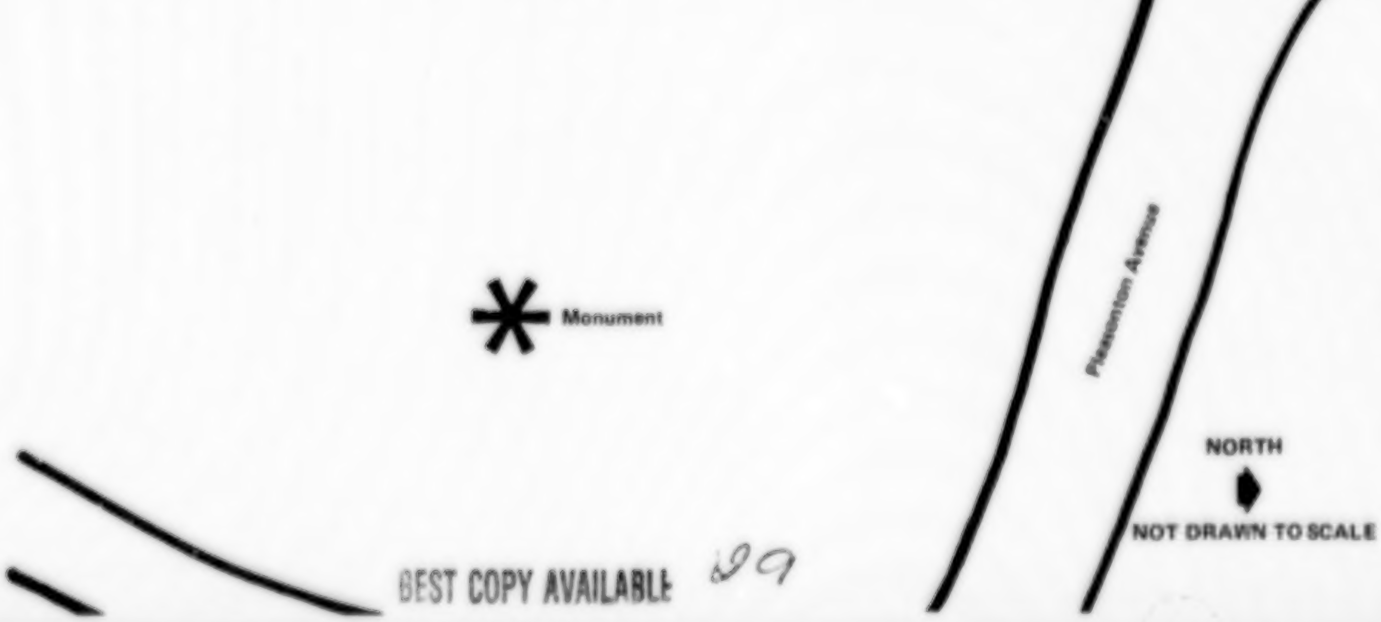
TOUR STOP 10: THE TRIANGULAR FIELD

RELOCATE TOUR STOP AS PER LITTLE ROUND TOP DEVELOPMENT CONCEPT PLAN/ENVIRONMENTAL ASSESSMENT

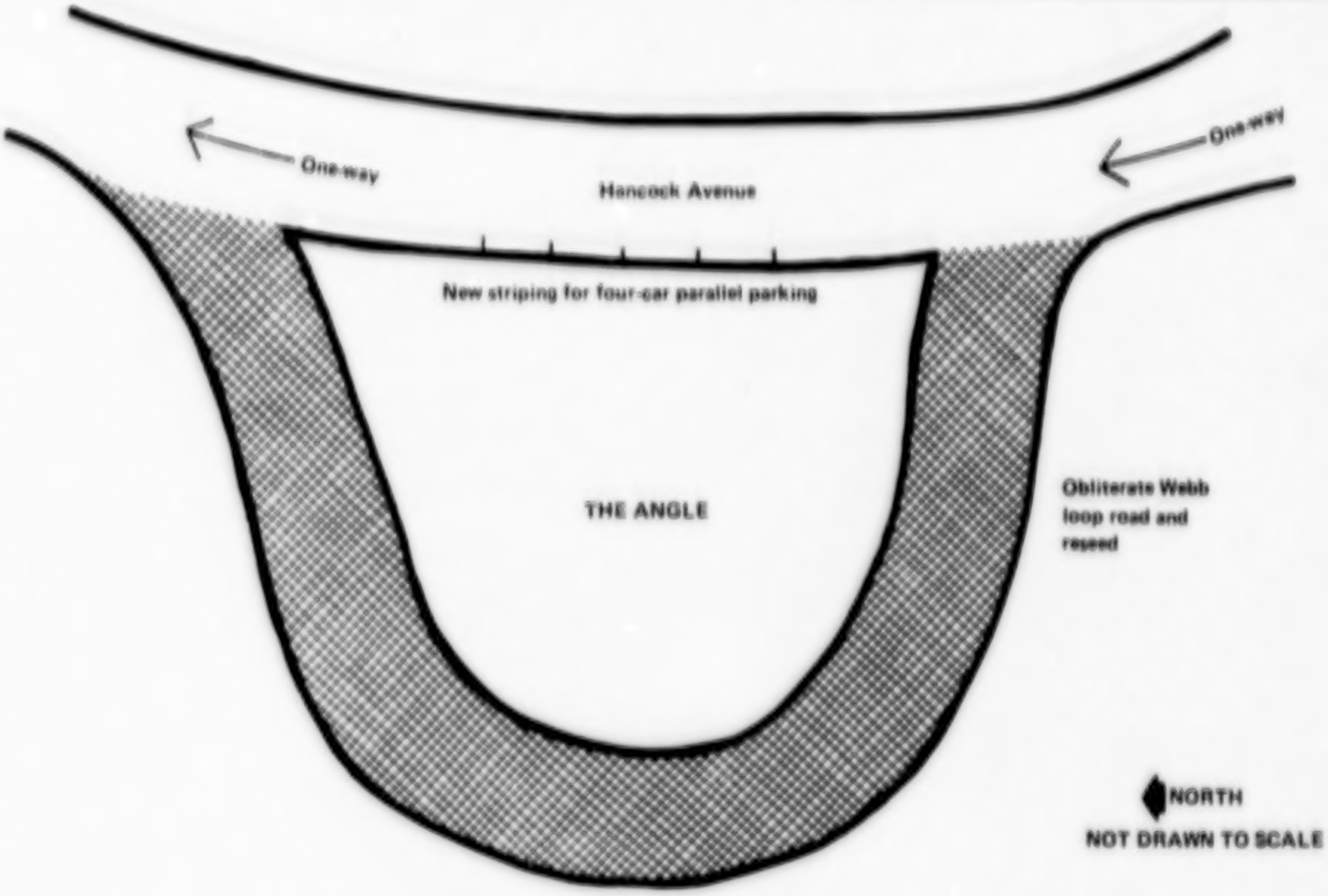
TOUR STOP 11: LITTLE ROUND TOP


Little Round Top
Change to diagonal parking
Sedgwick Avenue
One-way
One-way
Expand parking area (as per Little Round Top Development Concept Plan/Environmental Assessment)
NORTH
NOT DRAWN TO SCALE

TOUR STOP 12: PENNSYLVANIA MEMORIAL



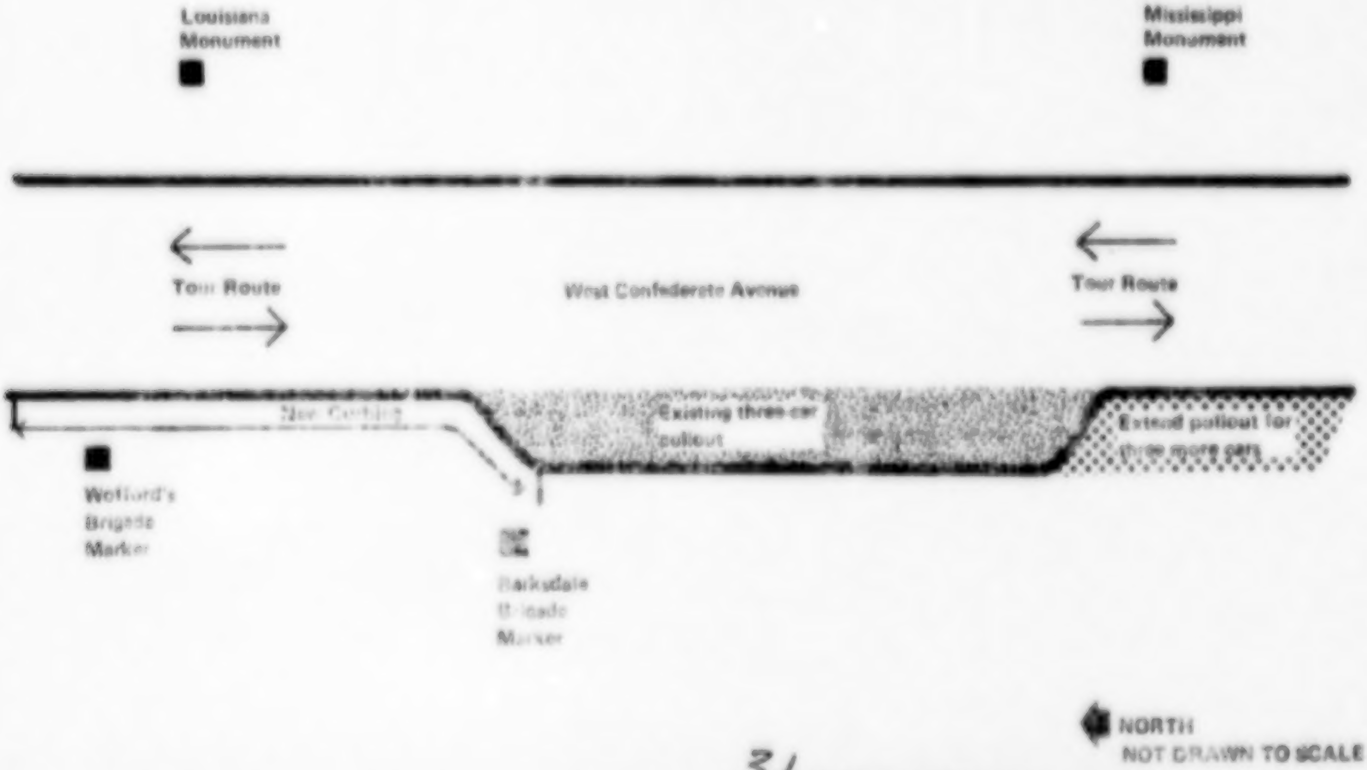
TOUR STOP 13: HIGH WATER MARK


One-way
One-way
Hancock Avenue
New striping for four-car parallel parking
THE ANGLE
Obliterate Webb loop road and reseed
NORTH
NOT DRAWN TO SCALE

A. THIRD CORPS MARKER (PENDER'S DIVISION)

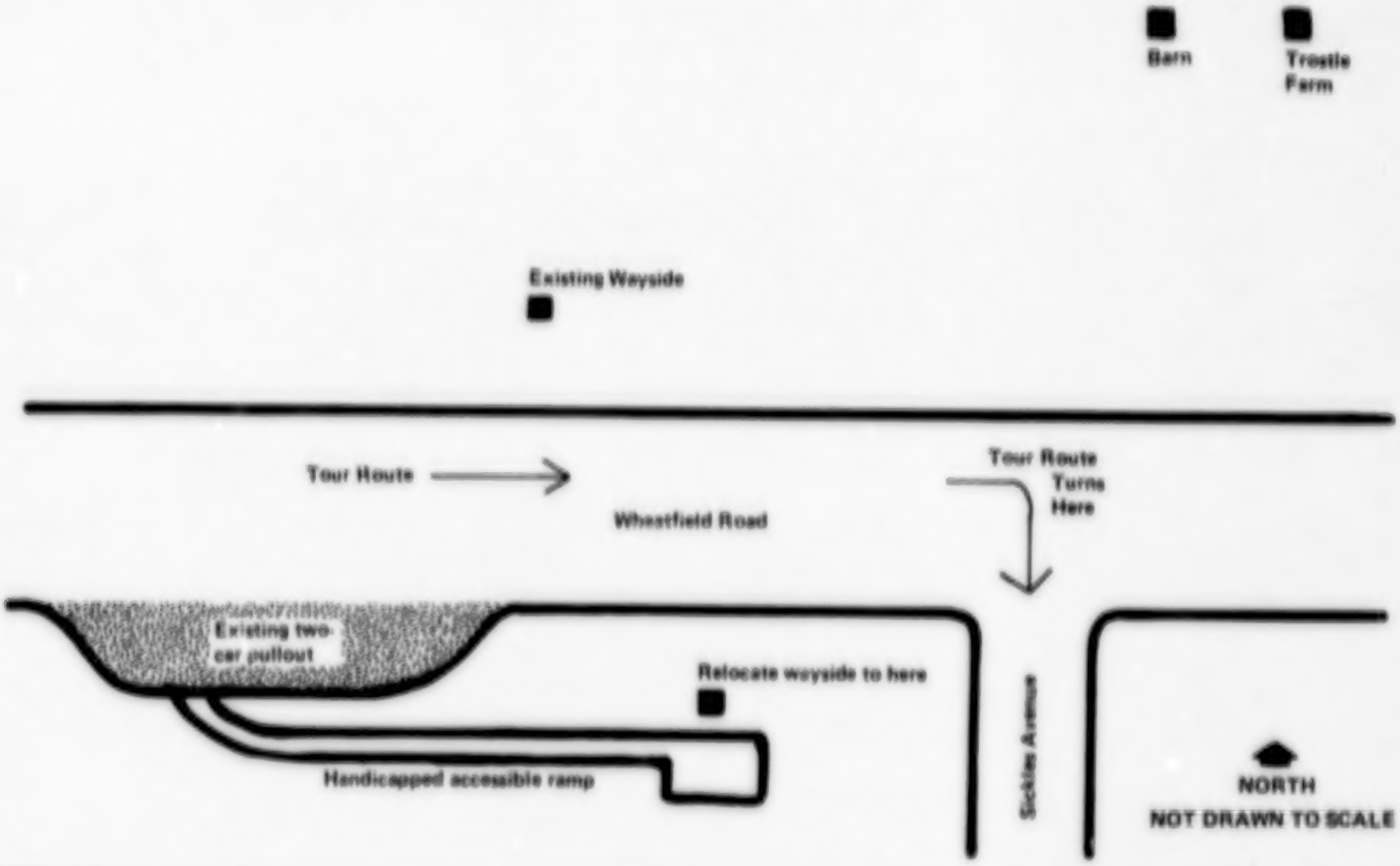
THE EXISTING PULLOUT IS TOO SHALLOW.
WIDEN TO 10 FEET.

B. MISSISSIPPI MEMORIAL

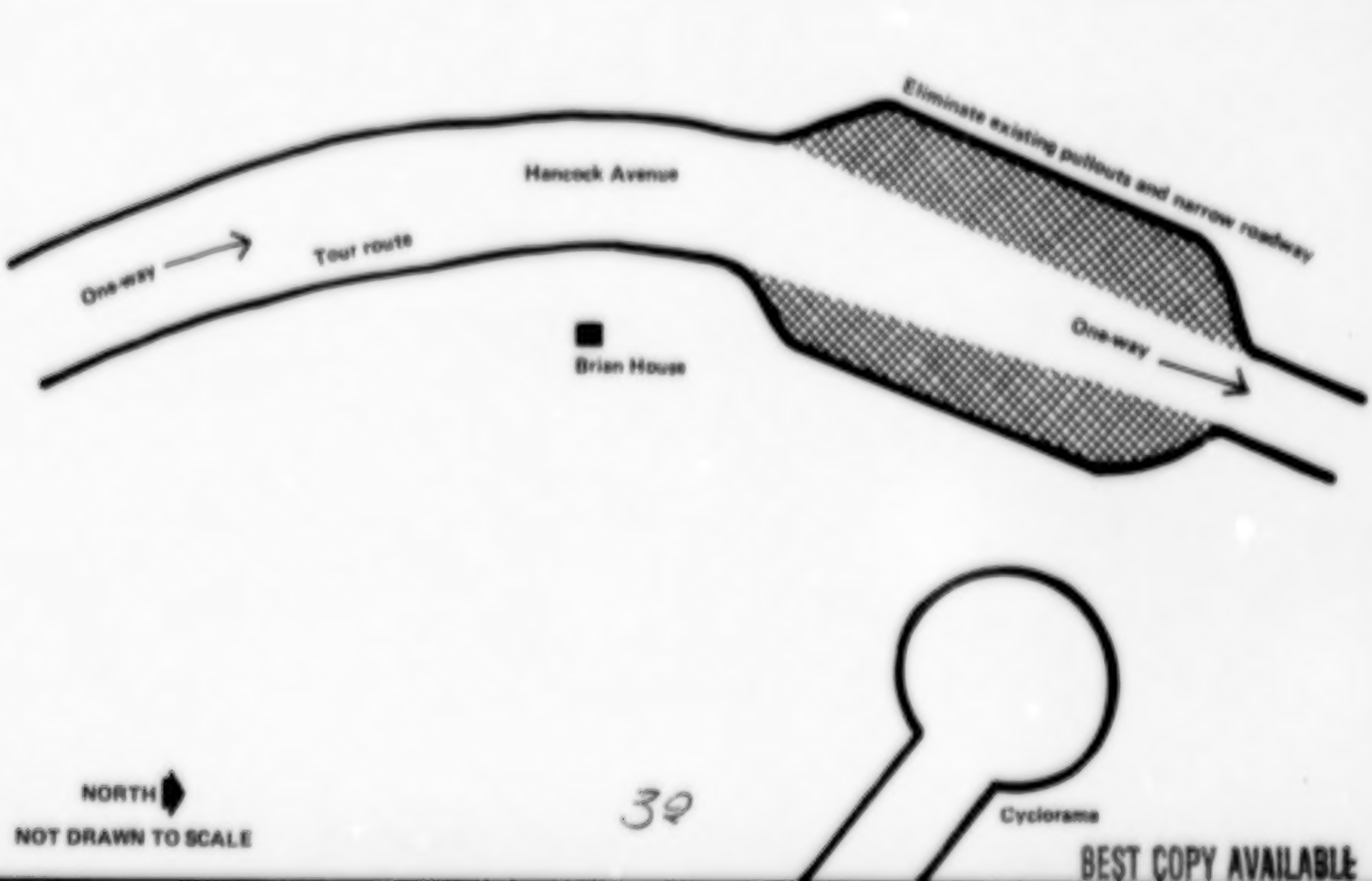


NOT DRAWN TO SCALE

C. ACTION FRONT WAYSIDE



D. CYCLORAMA PARKING ON HANCOCK AVENUE



SUMMARY OF RECOMMENDATIONS FOR THE LITTLE ROUND TOP AREA

The following recommendations are contained in the Development Concept Plan/Environmental Assessment for the Little Round Top area. They are important to this study because they affect the road system in the southern end of the park. Because that plan has not yet been finalized, the recommendations are subject to change.

At the peach orchard, Birney Avenue will be obliterated and the historic grade will be restored. The interpretive wayside and car pulloff will be moved east beyond the limits of the historic orchard where the battle action at the Rose farm and the peach orchard will be interpreted. New pedestrian trails will be developed from this wayside to the monuments on the south and west sides of the orchard. The peach orchard will be restored to its historic size, in conformance with the "Vegetation Management Plan."

The interpretive wayside and three-car pullout at the wheatfield will be relocated west of Sickles Avenue before its intersection with DeTrobriand Avenue. Sickles Avenue, between its intersections with DeTrobriand and Cross avenues, will be obliterated, and the historic grade and vegetation will be restored.

The surface of Ayres Avenue between Wheatfield Road and Sickles Avenue will be removed, and trail access to monuments will be provided along the old alignment.

A bypass around Devil's Den will be developed on the alignment of the Gettysburg Electric Railroad, connecting Brooke Avenue to Warren Avenue. This new road will meet NPS road standards for a class III special purpose one-way tour road and will be 12-14 feet wide to accommodate projected traffic volumes.

The intersection of Brooke Avenue and the Devil's Den bypass will be realigned to provide a continuous traffic flow around Devil's Den and to create a 90 degree T intersection at Cross Avenue that will lead to a small parking area for handicapped visitors atop Houck's Ridge.

Access to Devil's Den for handicapped visitors will be provided by redesigning Cross Avenue and portions of Sickles Avenue, which will terminate at a three-car parking lot. This cul-de-sac will be kept to a minimum size approximately 40 feet in diameter. It will be carefully located along Sickles Avenue east of the triangular field so as not to intrude upon the present or probable historic location of Smith's battery. The intersection of Cross and Sickles avenues will be adjusted to provide an adequate turning radius, but additional ground disturbance will be minimized.

Along the new Devil's Den bypass road an interpretive wayside with a three-car pulloff will be developed near the northwest corner of the triangular field to interpret the battle action that took place there.

Parking for 24 cars and three buses will be developed along the new road alignment southeast of the triangular field and west of the alignment crossing Plum Run. These parking spaces will be dispersed along the east side of the road among the trees and boulders to minimize the visual impact and disturbance of wetlands.

The intersection of the Devil's Den bypass and Warren Avenue will be pulled back to the south within the historic tree line. The road will be elevated so as not to disturb historic boulders and to cross an intermittent stream.

Existing portions of Sickles Avenue (from the new handicapped parking area on Houck's Ridge through Devil's Den) and Crawford Avenue (up to the place where the footbridge crosses Plum Run) will be obliterated, and the historic grade and vegetation will be restored to the greatest degree possible. Only the surface of Crawford Avenue from the footbridge north to Wheatfield Road will be removed. The bridge on Crawford Avenue crossing Plum Run just south of Wheatfield Road will be retained. The entire length of this portion of Crawford Avenue will be filled with gravel and topsoil and will be reseeded.

The portion of Warren Avenue from the new Devil's Den bypass to Crawford Avenue, including the bridge crossing Plum Run, will be obliterated, and the historic grade and vegetation will be restored.

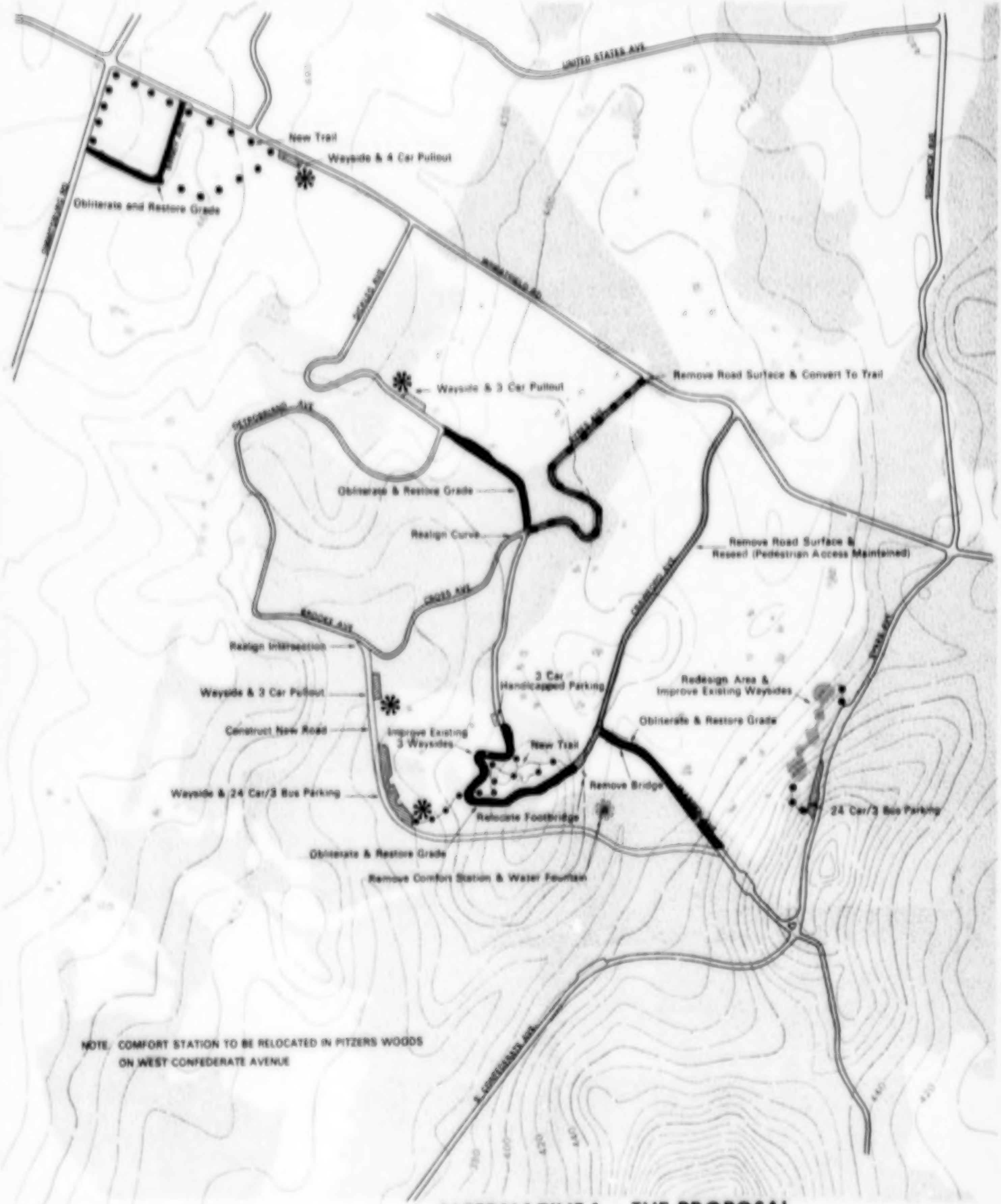
OTHER CONSIDERATIONS

The current 10-238, package 106B, was prepared in 1977. Much of the work requested in that package has now been completed. It is proposed that the park and region update the current 10-238 using the information in this Road System Evaluation and the FHWA "Road Engineering Study." (The current 10-238 is included in this study as the appendix.)

Several factors should be considered during the design and improvement of Gettysburg's road system. To ensure an aesthetically pleasing road, it should lie lightly upon the land, using natural support wherever possible. The roadway should be of the highest design quality in terms of blending the traveled surface, shoulders, and ditches into the surrounding environment. Wherever appropriate, the color of materials used should harmonize with the general character of the landscape. Material used for periodic road repair should be the same color as that used during construction. Cut-and-fill slopes should be rounded and warped at the ends for transition, and they should be properly seeded and mulched to control erosion and to provide for early recovery.

To eliminate unsafe road edges that have drop-offs and to prevent further erosion, extensive asphalt shoulder gutters and shoulder rehabilitation should be accomplished. The gutters will provide adequate water runoff, keep vehicles on the roads, protect road shoulders, and eliminate drop-offs.

Roadside signs, whether regulatory, informational, or interpretive, should enhance rather than detract from the visitor experience. Information should be clearly and unambiguously conveyed. Signs should be placed in locations to aid in fast visitor understanding and decision making, and



ALTERNATIVE 1 - THE PROPOSAL

GETTYSBURG NATIONAL MILITARY PARK / PENNSYLVANIA

UNITED STATES DEPARTMENT of the INTERIOR / NATIONAL PARK SERVICE they must conform to the NPS "Sign System Plan." Graphic symbols should be sized and designed for comprehension from moving vehicles.

Parking areas either along the road system or at terminal points should not intrude visually or audibly on significant resources. Where large parking areas are necessary, they should be broken up with plantings and screenings.

ENVIRONMENTAL CONSIDERATIONS

The majority of roads at Gettysburg are in good condition. Shoulder reconstruction or rehabilitation is the major work to be accomplished. Therefore, the majority of the park's road improvements meet the criteria of being categorically excluded from the National Environmental Policy Act (NEPA), as defined by the Departmental Manual (516 DM 1-7) and by the Department of the Interior's "National Environmental Policy Act; Revised Implementing Procedures" for the National Park Service (Federal Register, vol. 46, January 5, 1981, scheduled to be updated and expanded in 1984). Specifically excluded are "routine and continuing government business, including operations, maintenance and replacement" (appendix 1, paragraph 1.7, 516 DM 2).

Before construction, each project that has been designated as a categorical exclusion will require surveys and clearances for archeological and historical resources, and for endangered and threatened plant and animal species. The findings of these surveys may place restrictions on construction or may cause specific designs for designated areas to be modified.

The major impacts will result from proposed bypass construction, road obliterations, widening, increasing of pullout and parking areas, and realignment of adverse curves. All of these improvements, as well as environmental compliance considerations, are being done in the southern end of the park and are under the scope of the development concept plan for Little Round Top.

APPENDIX: CURRENT 10-238, PACKAGE NO. 106B

DSC-HFC
Form 802

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Page 1 of 1
for this package

PACKAGE ESTIMATING DETAIL

REGION MID ATLANTIC	PARK GETTYSBURG NMP
PACKAGE NUMBER 106 B	PACKAGE TITLE REHABILITATION OF PARK ROADS 20 MILES

(If more space is needed, use plain paper and attach)

ITEM	QUANTITY	COST
ROADS & TRAILS		
1. Resurface road (18')	7.6 miles	$642,000
2. Reseal road (18')	12.2 miles	155,000
3. Asphalt shoulders, gutters, curbing, parking and obliteration	Lump Sum	200,000
4. Walks (6')	6,600 lin. ft.	88,000
5. Miscellaneous materials and services	Lump Sum	50,000
TOTAL R & T		$1,135,000
This estimate is valid until October 1980.		
A. Williams, 9/20/77		

SUMMARY OF CONSTRUCTION ESTIMATES

CLASS OF ESTIMATE

A ☐ Working Drawings
B ☐ Preliminary Plans
C ☒ Similar Facilities

Proj. Type		Totals from Above B & U	R & T
52	Museum Exhibits		XXXXX
55	Wayside Exhibits		XXXXX
62	Audio-Visual		XXXXX
89	Ruins Stabilization		XXXXX
1	Construction		$1,135,000
2	Utility Contracts		XXXXX

ESTIMATES APPROVED (Signature)	(title)	(date)
	Assistant Manager Mid - Atlantic / North Atlantic Team	[illegible]

POST PROFESSIONAL SERVICES ESTIMATES AND SCHEDULING ON BACK OF FORM

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SCHEDULING OF DEVELOPMENT RELATED PROJECT TYPES

DEVELOPMENT RELATED PROJECT TYPES (Add on to line item)		C-3 YEARS	C-2 YEARS	C-1 YEAR	C: YEAR OF CONSTRUCTION
07	Construction Drawings B&U			170,000	
07	Construction Drawings R&T				
36	Historic Structures Const. Drawings				
43	Archeological Salvage B&U				
43	Archeological Salvage R&T				5,000
51	Museum Exhibit Design				
55	Wayside Exhibit Design				
61	Audiovisual Design				
	(Advance Planning)				
05	Surveys				
06	Comprehensive Design (Prel. Design)		39,000		
14	Utility Negotiations				
15	Special Studies				
34	Historic Furnishings Report				
35	Historic Structures Report (HIST)				
35	Historic Structures Report (ARCHIT)				
42	Archeological Research		15,000	5,000	

DISTRIBUTION OF ESTIMATED FUNDING REQUIREMENTS BY YEARS

ALL OTHER PROJECT TYPES		1st Year	2nd Year	3rd Year	4th Year
01	New Area Study				
02	Existing Area Study				
03	Development Concept Plan				
04	Interpretive Prospectus				
15	Special Studies (Non-Develop. Related)				
16	E.I.S.				
17	Service-wide Projects				
18	Wilderness Studies				
31	Archeological Investigations				
32	Park History Study				
33	Special History Report				
53	Museum Exhibit Operations				
54	Curatorial Services				
63	Audiovisual Maintenance				
71	Free Folder				
72	Sales Folders				
73	Books				
74	Archeological Publication				
75	Gen. Information Booklet				
76	Posters				
77	Special Publications				
	Other				
	Other				

NATIONAL PARK SERVICE

DEVELOPMENT/STUDY PACKAGE PROPOSAL

PACKAGE NO. 106
REVISION NO. 1

ORG. NO.	PARK OR OTHER ORIGINATOR	DEVELOPED AREA (NAME)	J/A CODE	REGION
00	Gettysburg NMP	Park General	PG	MAR

STATE	STATE CODE	COUNTY(IES)	CONGRESSIONAL DISTRICT(S)
Pennsylvania	PA	Adams	19

PACKAGE TITLE: REHABILITATION OF PARK ROADS (20 MILES)

STUDY PACKAGE ☐
NEW CONSTRUCTION B ☐
REHABILITATION A ☒

NEW PACKAGE ☐
REVISION ☒

CRITERIA (INSERT X's): 240

PROGRAM TRANSFER STATUS AND OTHER INFORMATION

PARK PRIORITY	DATE	REG'N PRIORITY	DATE

WILL ADDITIONAL OPERATING FUNDS AND POSITIONS BE NEEDED UPON COMPLETION OF THIS PACKAGE? (IF YES, EXPLAIN NEEDS IN SECTION II OUTLINE OF PLANNING AND MANAGEMENT REQUIREMENTS) YES ☐ NO ☒

FULL PACKAGE DESCRIPTION

This package provides for the rehabilitation of 19.8 miles of park roads, construction of gutters, walks and additional pulloffs.

It will also provide 16 additional wayside exhibits.

PACKAGE JUSTIFICATION STATEMENT

Most roads throughout the park are in a serious state of deterioration. Some sections are severely potholed, others show signs of base failure, edge raveling and dangerous shoulder erosion. Many of these roads were last resurfaced in 1960. Road shoulders in many areas are in need of asphalt shoulder gutter or shoulders to eliminate the many dangerous drop-offs. The ever increasing traffic is causing increasing wear and tear on the roads to the detriment of our road investment and to safety. About 500,000 vehicles use park roads each year. By 1980, when Phase I of this package may be completed, an additional 2,000,000 vehicles will have used them. By this time the roads will not have had any resurface work in nearly 20 years. Each year of delay in providing this package will deteriorate the base and increase the cost of rehabilitation. This project will bring all roads to standard.

PLANNING AND MANAGEMENT REQUIREMENTS (Follow instructions and outline provided in Program Formulation Guideline)

I. Background and Status

The 19.8 miles of primary roads throughout the Park are a major resource and the only practical means for the thousands of visitors who tour the Park.

ORIGINATOR (Signature and Title)	DATE	CONCURRENCE (Signature of Superintendent or Equivalent Official)	DATE
/s/ John Destrick Facilities Manager	8/8/77	/s/ John R. Earnst	8/8/77

APPROVAL (Signature of Regional Director or Equivalent Official)
Benjamin J. Zerbey
acting Regional Director, MAR
DATE 9/2/77

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II. Limitation and Influences

A. Land acquisition - Not required.

B. Legislative development limitation - None

C. Unusual geographical, climatological or other factors affecting the proposal - N/A.

D. Month and year required with explanation of reason why this timeframe must be met -

One year required. Because of the enormity of this project, we propose to complete this work in three equal phases, completing the most urgently needed portions first.

Project Planning in FY 79
Phase I in FY 80
Phase II in FY 81
Phase III in FY 82

E. Political or other public interest factors. - None

F. Statement for management - Completed.

G. Outline of Planning Requirements - Completed.

H. Support concession development - Not applicable.

I. List of classified structures - Not applicable.

J. Other factors to be considered - None.

III. Planning - Design - Construction

A. General Management Plan Status

1. Resource Management Plan Status)
2. Visitor Use Plan Status) Underway
3. General Development Plan Status)

B. Interpretive Prospectus - Underway

C. Development Concept Plan - Not applicable.

D. Buildings and other facilities required - Not applicable

E. Utilities required - Not applicable.

F. Roads and trails required -

Walks - This package recommends asphalt walks at East Cemetery Hill, Peach Orchard, and Reynolds Woods. Each of these areas are heavily visited throughout the year and need all-weather walks in lieu of the present dirt path. 6 feet wide by 6600 feet long + or -.

Roads - The following avenues and roads are included in this package for resurfacing: Sedgwick, Sykes, Raynolds, Culp's Hill, South End Station, Buford, Doubleday, Wadsworth, Howard, Warren, Pleasonton, Humphrey, Granite School House, and Robinson; for a total of 7.6 miles by 18 feet wide.

The following roads are programmed for resealing: Hancock, South Confederate, Stone, Meredith, S. Sickles, Crawford. Slocum, E. Confederate, Wright, United States, N. Sickles, Latimer, Hunt, Ayres, Brooks, Cross, DeTrobriand, and the National Cemetery road; this totals to 12.2 miles by 18 feet wide.

In order to eliminate these very unsafe road edges which have significant drop-offs, and prevent erosion, we are including extensive asphalt shoulder gutters and some road shoulder work. The gutters are to provide water run-off, keep vehicles on the roads, protect road shoulders, and eliminate drop-offs. The shoulders will provide pull-over space, protect road shoulders, and eliminate drop-offs.

Curbing is included for the pull-offs recommended for Weikert Farm, Stevens Knoll, New Stop 16, Louisiana and Mississippi Monuments, and Reynolds Woods locations, and at certain other pull-offs.

? (ASPHALT DIVIDER)
A driver is needed at the Eisenhower Tower parking.

The concrete curbing at the Guide Stations needs to be replaced.

The parking areas of the Eisenhower Tower and Maintenance Shops needs to be constructed or resurfaced.

The road to the famed Angle is to be obliterated as an intrusion upon a historic site.

G. Concessions Management Plans - Not applicable.

H. Other planning or design documentation required or existing - None.

STUDY TEAM

PREPARERS

John Deatrick	Chief of Maintenance, Gettysburg National Military Park
John Earnst	Superintendent, Gettysburg National Military Park
Dan Iritani	Soil Scientist, Denver Service Center
Michael Spratt	Transportation Planner, Denver Service Center

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Lou Mattia	Highway Engineer, Eastern Direct Federal Division, Federal Highway Administration
Joe Monkoski	Chief of Maintenance, Mid-Atlantic Region, National Park Service

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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END

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